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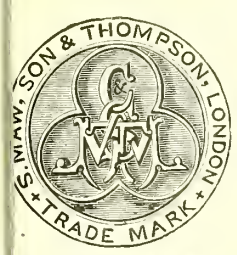

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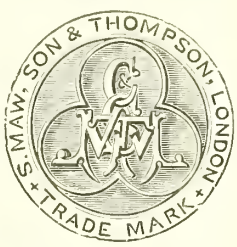

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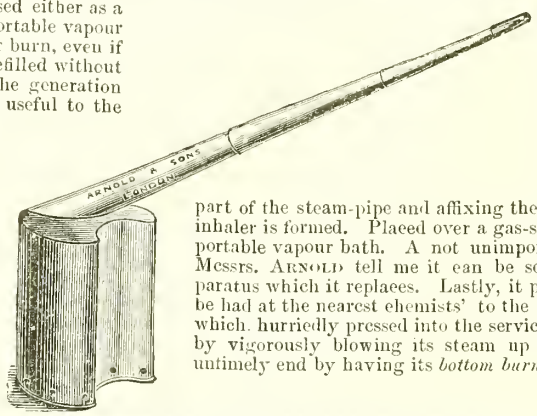

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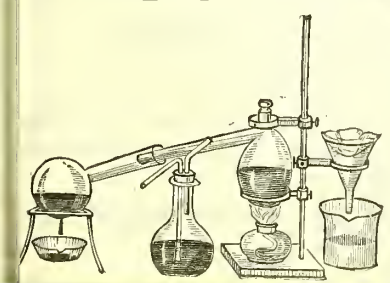

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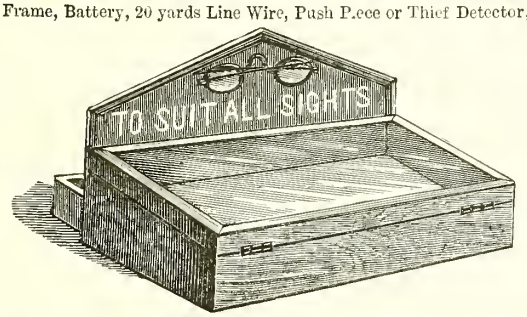

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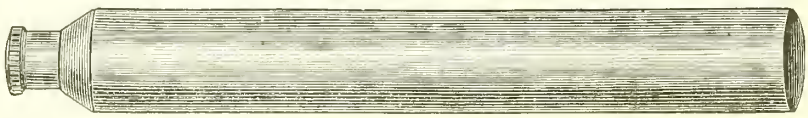

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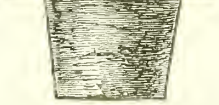

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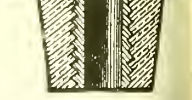

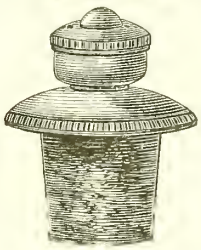

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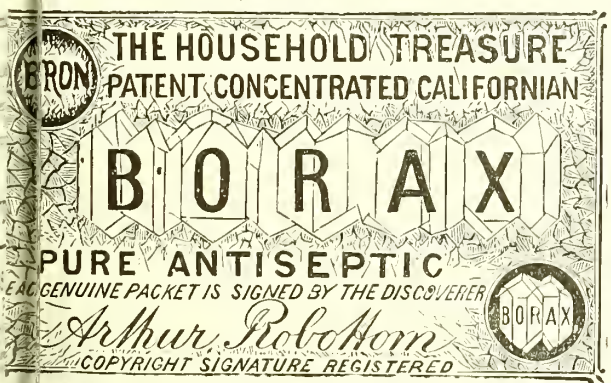

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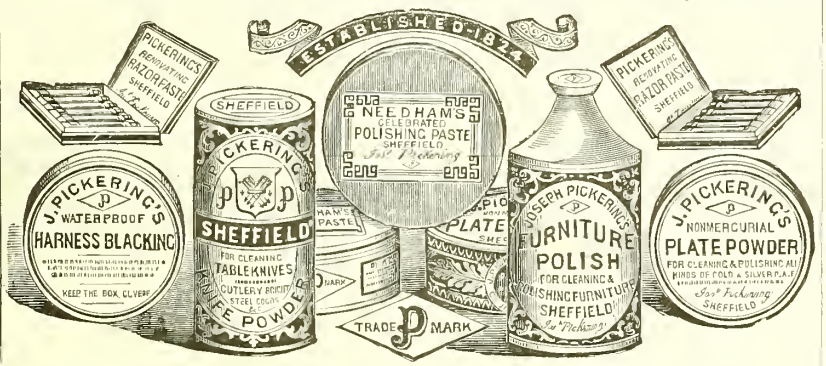

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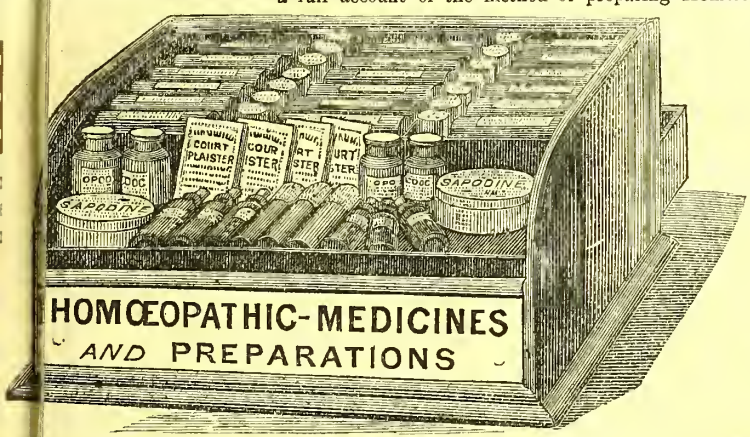

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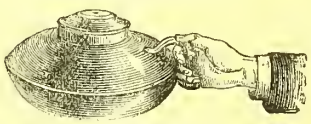

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This form of prescribing, although it has the advantage of being extemporaneous, has so many disadvantages that it should obviously only be resorted to when no other means are at hand for lessening the disagreeable incident attaching to the habitual consumption of a wine-glass full of nauseous fluid several times a day. To this want of consideration of the tastes of mankind, and to the adhereuce to old-fashioned forms of nauseous and bulky mixtures, on the part of practitioners generally, may be ascribed no small part of the popularity of what is often quite erroneously called 'homœopathic' practice, since it is often only 'globulism.' 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Index to Advertisers.

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(A)

2 Aesculap Bitter Water Co. 60
3 Allen and Hanburys 79, 98
6 Allen, R. J. 16
10 Allcock Co. 14
12 Apollinaris Co. 44
13 Arnold and Sons 6
Assistants Wanted 25
Assistants Wanting Situations 26
15 Atkinson & Barker 83
16 Australian (Ramornie) Meat Co. 54
17 Aylesbury Dairy Co. 52

(B)

2 Bailey, W. H., and Son 56
5 Bainbridge and Pound 31
6 Bass Brothers and Co. 70
9 Ball, Hobson and Co. 65
10 Barber, T. 93
14 Barnett and Foster 38, 100
15 Barrett and Elers 36
16 Barron, Squire and Co. 68
18 Bathgate and Co. 65
19 Battle, J. R. 93
20 Baumgartner and Co. 17
23 Beckett, W. 44
25 Beecham, T. 85
27 Bentley, E. 87
29 Bewley and Draper (Limited) 58
30 Bickford and Sons 65
Bigley, J. 42
39 Bickwell, G. G. 29
42 Behringer and Socnne 64
44 Bird's Daughter 31
45 Brax Co. 15
48 Birne and Taylor 19
50 Bywling and Govier 26
51 Blacher, P. H. 10
52 Bradley and Bourdas 16
53 Brady and Martin 83
54 Brand and Co. 52
56 Batby and Hinchliffe 38
58 Brekke, Lars and Co. 82
59 Brett, F. J. 24
61 Bristow, T. F., and Co. 29
62 British Syphon Co. 46
63 Brodie, T. 32
66 Brooks, H., and Co. 12
67 Browne, C. F., and Co. 63
70 Buck, F. 30
71 Bullock, J. L., and Co. 83
73 Burgess, Willows and Francis 68
74 Burgoyne, Burbidges and Co. 71
74a Burk, C. H. 67
75 Burrough, J. 32
76 Burroughs, Wellcome and Co. 57
78 Bush, W. J., and Co. 42
Businesses for Disposal 25
79 Butcher, W., and Co. ..... TEXT 78
81 Butt, Child and Co. 74

(C)

1 Calbury Bros. 100
2 Carr, Graham and Son 82
4 Caycedo, G. de, and Co. 65
5 Central School of Chemistry and Pharmacy 9
6 Chentreton, J. 4
7 Chamberlin Manufacturing Co. ..... TEXT
9 Chemists' Aërated Waters Association .. 41
10a Chemist and Druggist Optical Association 11
12 Chesebrough Manufacturing Co. 4
14 Chubb, J. C. 26
18 Cleaver and Co. 18
19 Clerc, Léon 17
20 Cocking, T. S. 84
20a Collier, L. 26
22 Colthurst and Harding 56
23 Condy's Fluid Co. 91
24 Condy, H. Bollmann 90
26 Condy, R., and Co. 27
27 Corbyn, Stacey and Co. 1, 73
28 Corley, J., and Co. 14
29 Corner, R. 92
30 Corry, W., and Co. 67
37 Craven, F. 93
38 Craven, M. A., and Son 47
39 Crawshaw, E., and Co. 15
40 Cresswell, R. and Co. 33
42 Crossley Brothers 35
46 Cubley and Preston 16
49 Curry, Lloyd and Co. 28

(D)

1 Darling, W. 30
2 Darton, F., and Co. 11
3 Davenport, J. T. 78
4 Davenport and Co. 38
6 Day, Son and Hewitt 92
7 Delacre's Extract of Beef 23
8 De Luca, G. V. 88
10 Denoual, J. 63
11 De St. Dalmas, A. 86
13 Dinneford and Co. 84
14 Dobell, Dr. 8
16 Duncan, Flockhart and Co. 74
17 Dunn and Co. 72

(E)

1 Eastern Counties School 9
4 Edmunds, J. 28
7 Ellis and Son 42
9 Epps, J., and Co. 94
10 Erdmann, C. 74
11 Evans, H. S., and Co. 69
12 Evans, J. 63
13 Evans, Lescher and Webb 53, 55, 6
14 Evans, Sons and Co. 53, 55, 69
15 Ewen, J., and Sons 30

(F)

1 Farina, J. M. 34
2 Faulding and Co. 65
4 Favarger and Co. 40
6 Felton, Grimwade and Co. 66
7 Fennings, A. 100
11 Finch, Rickman and Co. 53
12 Finzelberg 26
13 Fitch and Nottingham 63
23 Fry and Sons 54

(G)

1 Gabriel and Troke 88
3 Gallais, E., and Co. ..... TEXT 78
6 Gibson, R. 67
6a Giles, Schacht and Co. 80
7 Gillott, J. 96
8 Glasgow Apothecaries' Co. 87
9 Goddard, J. 8, 16
13 Gould, E., and Son 13
17a Gregory, W. 94
21 Gulliver, S., and Co. 44

(H)

5 Hanks, H. D., and Co. 80
6 Hargreaves, J., and Son 14
7 Harris, Pbilip, and Co. 59
8 Harrison, W. B. 44
9 Harrop, W. H. 15
14a Harvey, G. 26
16 Hay, W. 43, 47
18 Haywood, J. S. 86
21 Helliar, E. 93
29 Hewlett, C. J., and Son 70
30 Heynes, Mathew and Co. 65
35 Hoff, J. 63
38 Holden, A. 8
39 Holloway, Professor 84
40 Homœopathic Hospital 9
41 Hooper and Co. 1
44 Hovenden and Sons 29
45 Howlett, S. 94
46 Hulsen, J., and Co. 68
48 Hunter 93

(I)

1a Ingham 67
2 Ingram and Royle 100
3 Ingram and Son 86
4 Insule, E. S. 94

(J)

3 Jackson, T. S. 16
4 James and Co. 29
6 James, Lieut. R. S. 92
7 James, R. J. 92
9 Jewsbury and Brown 30, 41
10 Jones, E. B 65

(K)

2 Kaye, J. 84
3 Keene and Ashwell 19
4 Kemp, W. 76
5 Kempthorne, Prosser and Co. 66
10 Kilner Brothers 87
12 Kimpton, H. 8

(L)

2 Lalor, Dr. 76
4 Lamplough 40
7 Laurance, H. 10
8 Lazenby, E., and Son 52
9 Leath and Ross 3
11 Lehmann, R., and Co. 51
12 Lemaitre and Co. 95
13 Lennon, B. G., and Co. 65
14 Letchford and Co. 31
20 Liebe, J. P. 53
22 Lincoln and Midland Counties' Drug Co. 81
24 Litchfield, P. 80
39 Livermore, I. 32
31 Lloyd, J. and C., and Co. 50
33 Loeflund, E. 63
38 Lorymer and Co. 30
40 Lumb, J., and Co. 87
41 Lynch and Co. 61, 99
42 Lynch and Co. (Trommer's Malt Extract) 62

(M)

3 Macfarlan, J. F., and Co. 74
4 Mackay, J., and Co. 46
9 Maltine Manufacturing Co. 62
13 Mawer and Co. 55
14 Maw, S., Son and Thompson 5, 53
15 May and Baker 2
16 Metz, Paul 32
17 M'Lachlan, J., and Co. 87
19 Millard, Son and Appleton 28
21 Mills, R. M., and Co. 46
Miscellaneous 26
28 Morrison and Thew 16
30 Mottershead and Co. 83
31 Mountain and Co. 40
32 Mumford, G. S. ..... TEXT 78
33 Murphy, J. 31

(N)

1 National Chemical Co. 91
3 Nelson, Dale and Co. 52
5 Nestle, H. 50
7 Newbery and Sons 23, 59
10 Newton, Keates and Co. 72
11 North British Chemical Co. 68

(O)

1 Oakey and Sons 17
2a Optical Association 11
3 Orme and Co. 9
4 Orridge and Co. 24
5 Osborne, E. M. 81

(P)

4 Pattison, G. 27
6 Peterson and Co. 32
9 Phillips and Son 54
11 Pickering, J., and Sons 17
18 Plomer, E., and Co. 65
16 Polglase, F. J. W. 68
17 Poths, H., and Co. 76
18 Pritchard & Lloyd 90
20 Pulvermacher, J. L. 59

(R)

2 Randall and Sons 47
4 Rayner, L. 94
8 Rimmel, E. 29
10 Robbins and Co. 68
11 Roberts and Co. 64
13 Robinson, B. 54
16 Rogers, W. 29
18 Ross, W. A., and Co. 42
20 Rubeck, H. 66

Index to Advertisers—continued.

(S)

2 Salmon, Ody and Co. 84
6 Sands Manufacturing Co. 14
8 Savory and Moore 58
10 Schiffelin and Co. 20
11 Schmedes and Co. 6
12 School of Pharmacy, Bloomsbury Square 9
14 Schweppe's Mineral Waters ..... TEXT 78
15 Seabury and Johnson 97
18a Shelfanger Waters, Proprietor of 44
20 Silicated Carbon Filter Co. 48, 49
22 Skinner, G. H. 45
22a Skuse, E. 8
26 Smith and Gibb 32
27 Smith, C., and Sons 96
30 Smith, J. G. 8
28 Smith, T. J. 82
32 Smith, W. F. 84
33 Snook, G. F., and Son 28
34 Solport Bros. 14
35 Southall Brothers and Barclay 58
36 South London School of Pharmacy (W. Baxter, secretary) 8
38 Spratt 90
39 Squire, Fox and Co. 80
42 Stedman, J. ..... TEXT 78
44 Stevens, P. A. 30
51 Sussex Drug Co. 96
53 Symes and Co. 79
54 Symes and Co. (Simla) 65

(T)

2 Taylor 90
3 Taylor, T. and F. J. 42
4 Tench and Taylor 25
6 Thompson and Capper 13
9 Tinplate Decorating Co. 96
12 Tomlinson and Hayward 89
13 Tomlinson, R. 95
15 Toogood, W. 88
16 Towle, E. T. 82
17 Treble, G., and Son 95
18 Trippier 24
20 Tully, J. 9
25 Tyler, Hayward, and Co 36

(V)

1 Vallet, L. 40
2 Van Voorst 8

(W)

1 Walker and Dalrymple 63
2 Wand, S. 81
3 Warner, W. R., and Co. 23
7 West, Thomas 30
9 Westminster College of Chemistry and Pharmacy 10
12 Whiffen, T. 72
13 Whitaker and Grossmith 31
14 Wigan, H., and Co. 47
15 Wilcocks, N. G. 37, 39, 43
16 Willan, W. 15
17 Williamson and Sons 96
24 Woods, W. 96
25 Woolley, Sons and Co. 73
26 Wrangham, R. H. 73
28 Wright, Layman and Umney 73
29 Wyleys and Co 77

(Y)

1 Yates, W. S. 34
2 Young H. (G. Pattison, proprietor) 27

(Z)

1 Zimmermann, A. and M. 73

Advertisers' and Buyers' Reference List.

N.B.—The letters and figures which follow the headings—A 1, B 3, &c.—refer to the left-hand column in the Index of the Advertisers' names on the preceding page. The buyer in search of dealers in Quinine will find certain letters and figures in this Index. By referring to the Index of Advertisers he will find the pages indicated on which Quinine is advertised.

ACETIC ACID—D 17
AERATED WATER PLANT—B 14, B 56, D 4, F 4, T 25, W 15
AERATED WATER BOTTLES—B 15, D 4, B 14, V 1
AERATED & MIN. WATRS—A 2a, A 12, C 9, E 7, G 3, G 21, H 8, H 16, I 2, J 9, M 21, R 18, S 14, S 18a, S 22, T 3
AGENCIES ABROAD—B 9, B 18, B 30, C 4, F 2, H 30, J 10, K 5, L 13, P 14, E 14, F 6
BARYTA SALTS—H 46
BEDS, WATER—H 41
BOOKS—D 14, S 30, G 9, G 13, H 28, K 12, S 22a, S 36, V 2
BORAX—B 45.
BOTTLES AND POTS—B 27, B 66, D 8, G 8, L 40, M 17, P 17
BOXES, WD & TIN—M 16, S 27, T 9, W 17
BRUSHES—L 38
CAMPHOR—M 15
CAPSULES—D 10
CAUTIONS—H 14a
CEMENTS—
CHEMICALS—M 15, N 10, Z 1, O 3
CHINOLINE—Z 1
CHLORODYNE—D 3, T 16
CHLOROFORM—D 16, M 3, Z 1, E 10
COCOA & CHOCOLATE—F 23, C 1
CODLIVER OIL—A 3, C 2, S 28, S 35, W 25, B 58a
COFFEE—M 13, P 9, C 7, E 14
COLLAPSIBLE TUBES—B 66
CONCENTRATED LIQUORS, &c.—C 18
CONFECTIONERS' BOOKS AND PLANT—C 20a, S 22a
CORN CURES—A 10, C 28, H 6, R 13, S 34
DENTIFRICES—D 1, J 9, M 19, W 24, L 9, T 6
DENTISTRY—B 70
DISINFECTANTS—C 23, C 24, C 25, N 1
DOG BISCUITS—S 38
DRUGSTS SUNDRIES—B 6, B 27, C 49
DYES—C 39, S 6
EAR PROTECTOR—L 41
EARTHENWARE GOODS—I 4
ELECTRIC BELLS—D 2
ENEMAS—I 3, L 41
ENGINES—C 42, T 25
ESSENTIAL OILS—B 78, R 20, S 53, F 6
ETHER—M 15, P 16, R 10, E 10
EUPHORBIA PILULIFERA—I 1a
EXT. MEAT, &c.—B 54, D 7, L 21, N 3
EXT. CINCHON. FL.—W 28
FEEDING BOTTLES—E 4
FILTERS—S 20
FLAVOURING ESS.—B 78, M 15
FOOD, INFANTS', &c.—L 11, L 20, L 31, M 30, N 5
FRUIT SYRUPS—B 23
FULLER'S EARTH—B 39
GINGER ESSENCE—B 78, H 16
GLOVES—BATH—L 29
GLYCERINE—S 11, Z 1
GRANULAR PREPS.—M 4
GUM EXTRACT—B 78
GUMS—M 28
GUTTAPERCHA, WHITE—S 44, D 16, E 10
HAIR PREPS.—B 63, J 4, H 44, R 16, L 9
HOMŒOPATHIC MEDICINES—B 79, G 13, K 3, L 9, T 6, E 9
HONEY—K 4
HOSPITALS—H 40
ICE—H 8
INK—B 29, D 16
IODINE—N 11, Z 1
ISINGLASS—W 14
KOUMISS—A 17
LEECHES—F 13
LINSEED—W 26, K 4
LINT—
LOZENGES—A 3, C 38, G 6, N 7, M 16, R 2
MAGNESIA—D 13, C 30
MALT EXTS.—E 12, H 35, L 33, L 42, M 9
MARKING INKS—B 5, B 44, C 14, M 33
MEASURES, GRADUATED—T 15
MEDICINE CHESTS—L 9, D 6
MILK PREPS.—A 17, N 5, L 11
MIXING MACHINES—B 51
MORPHIA—M 3
MUSK—S 54
MUSTARD—F 11
OINTMENT BASES—A 3, C 12, E 15
PAINTS AND VARN.—A 6, C 22, J 3
PANCREATINE—S 8, M 30
PAPER—CABINET—L 41
PATENT MEDICINES—A 15, B 25, L 22, S 51, F 7, H 39, K 2, L 2, M 19, R 11, S 32, S 29, S 42, T 12, W 2, H 5
PENS—G 7
PEPSINE AND PEPTONE—M 30, B 46, B 71, F 12, S 8, H 29
PERFUMERY & FANCY SOAPS—B 61, C 12, L 38, R 8, S 11, W 7, W 13, F 1
PEROX. HYDROGEN—B 63, B 81
PETROLEUM, &c.—C 19, C 12, C 32
PHARM. PREPARATIONS—S 53
PHOSPHORIC ACID—N 10
PILL MACHINES—C 20
PILLS (Coated)—S 10, W 3, W 25
PLASTERS—D 11, S 15
POLISHING PREPARATIONS—B 20, B 52, C 46, G 9, O 1, P 11
POULTRY CONDIMENT—P 18
QUININE SALTS—B 42, W 12
SALICYLIC ACID—Z 1
SALINES—L 4
SAUCES—L 8, M 14, E 14
SCHOOLS OF PHARMACY—O 3, E 1, S 36, S 12, W 9, T 20
SCIENTIFIC APPAR.—D 2, M 16, O 3
SEIDLITZ POWDERS—C 14
SHEEP DIP—T 12
SHOP FITTERS—R 4, T 13, T 17, Y 1, L 12
SMELLING SALTS—W 16
SOAP—L 19
SODA PHOSPHATE—N 10
SPECTACLES—D 2, L 7, O 2a, C 10a
SPIRIT—B 75, S 24
SPIRIT, METHYLATED—W 4
SPONGE—C 40, P 6
SPRINKLER STOPPERS—B 66
STARCH GLAZE—H 9
STRYCHNINE—W 12
SUPPOSITORIES—B 53
SURGICAL APPLIANCES—A 13, B 3, H 18, P 20
SYPHONS—B 62, W 15, M 31
TEA—W 1
TELEPHONES—O 3
THERMOMETERS—D 2, M 16
TOOTHACHE CURES—G 17a
TINCTURE PRESS—B 76
TINFOIL—B 67
TRUSSES—B 3
VALUERS—B 59, O 4, T 4, T 18
VERMIN KILLERS—B 10, B 19, C 37, H 48
VETERINARY—C 23, D 6, G 1, H 21, J 1, J 6, T 2
WHOLESALE AND EXPORT DRUGGISTS—B 6, B 16, B 73, C 27, E 1, F 6
WATERS—CONCENT.—R 13
WAX—K 4
WINES—B 74a
ZINC OXIDE—H 7

DELACRE'S EXTRACT OF BEEF

HAS BEEN AWARDED SEVEN PRIZE MEDALS FOR SUPERIORITY,

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Its Superior advantages over all other Extracts of Meat are :—

1 Being Extract of Beef only, it makes the best Beef Tea.

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5 The contents of each jar are guaranteed as to quality and weight.

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Delacre's Extract of Beef is to be obtained through all Wholesale Houses.

DELACRE'S EXTRACT OF BEEF CO., LIMITED,

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SOLUBLE & PERMANENT SUGAR-COATED PILLS.

No Pin-Holes. No Secret Coating. Purest Drugs.

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The manufacture of officinal and other ready-made Pills for Physicians' prescriptions has been, on our part, confined to those coated with sugar and round in shape; because an experience of more than a quarter of a century serves to convince us that sugar is the only proper material with which to coat a pill; in confirmation of which we append the following reason :—

1.—Because sugar is more soluble than gelatine, glue, chalk, or talc, of which the two former are the same in substance and properties. . . . . "Sugar-coated pills are more soluble than gelatine-coated or compressed pills."—*Prof. Remington's Paper read before the American Pharmaceutical Association, Boston*, 1875.

2.—That according to our process, no sub-coating of insoluble shellac is necessary.

3.—That the direct application of heat is entirely avoided, and the masses can be coated when so soft as not to admit of being dipped in a hot solution of gelatine, or other substance.

4.—Sugar as a coating is not incompatible, as is the case with gelatine, when brought in contact with certain kinds of food, astringent fruits, or wine containing Tannin, by which it (gelatine) is converted into a condition the basis of leather.

5.—The preservative properties of sugar, and the tendency to attract rather than yield moisture as gelatine does, prevent the subsequent drying and hardening of the pills.

6.—A round substance is more easily swallowed than one which is elongated, flattened, or pointed, there being no art in deglutition that would enable it to pass endwise.

7.—The colour and shape of some gelatine-coated pills are so inelegant by comparison with the round, white sugared pill, as to be repulsive to sensitive patients.

8.—Actual experiments, which you are enabled to perform as to *solubility* and the administration of a dose of cathartic pills, the effect of which is soon apparent, will practically demonstrate the truth of our claims for the superiority of WARNER & Co.'s method over ALL others for coating pills.

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All kinds of Chemists' Stock and Fixtures valued. Partnerships arranged. Particulars of different classes of Businesses forwarded to Buyers.

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FASHIONABLE WESTERN WATERING-PLACE.—Light Retail; oldest establisbed in the town; returns, £530 to £550; rent, £25; price, £350.

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NORTHAMPTONSHIRE.—Very old-established Light Retail, Prescribing, and Dispensing of very profitable character, in pleasant town; very little opposition; low rent; returns, £800; no paints or tobacco; price, £600.

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DISPENSING AND HIGH-CLASS RETAIL—returning £1,820, last year; profit, after paying rent, £800; vendor entering medical profession, and selling to devote time for study and hospital; price, £1,900.

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ANOTHER.—Large manufacturing town; Dispensing and Prescribing Business; returning £700; large house; proprietor retiring.

LIVERPOOL.—An old-established Dispensing and Medical Business; central position; rent moderate.

AN old-established Prescribing and light Retail Business; corner shop; populous locality; doing a snug trade; to be sold cheap.

A PRESCRIBING and General Retail Business; established 10 years; returns, £400; price, £200.

No Commission is charged to Purchasers.

All information on application. To facilitate matters, reference required on parties applying for the first time.

Lists of Stock for Appraisement receive immediate attention.

SALES BY AUCTION.

MR. F. J. BRETT is instructed to SELL by AUCTION, on Wednesday, February 22, on the premises, as a GOING CONCERN, the RETAIL and DISPENSING BUSINESS carried on for nearly half a century at 136 Broad Street, Birmingham. The shop is well fitted, has plate-glass front, and good dwelling house attached; vendor will give good introduction to purchaser. An exceedingly low reserve will be fixed; failing this, the entire stock and fixtures will be sold in lots, forming an excellent opportunity for parties commencing business. Orders to view and catalogues may be had of the auctioneer three days prior to the sale.

YORKSHIRE.

TO BE SOLD by PUBLIC AUCTION, on February 24, at the Sun Hotel, Malton, at 3 o'clock, P.M., a FREEHOLD DWELLING HOUSE and SHOP, in which a successful Chemist's business has been carried on for the last 20 years by the present owner and occupier, Charles J. Hartley, who is retiring from business. The premises are situated in the most central position in the town of Malton.

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3. LONDON (CITY OF).—Old-established Wholesale and Retail Busines s o b Sold by valuation of stock and fixtures and goodwill; death vacancy; pp ants can have full particulars on furnishing references.

4. YORKS.—Chiefly a Prescribing Business; returns about £400 under ar gement; price £200 or valuation; rent £26.

5. LONDON, W.—Handsomely fitted and well-stocked Pharmacy; etu s nearly £1,000 at exceptionally good profits; price £1,000.

6. MANCHESTER (SUBURB).—High-class Retail and Dispensing; sta shed by vendor 5 years; shop well fitted and stocked; returns over £60 t full prices; rent £60; good house; price £620; a great bargain.

7. LONDON, N.E.—Old-established general ready-money Business ne changed hands); returns about £500, but capable of great extension nd business man; rent £50, on long lease; price £500 cash.

8. BEDS.—Light Retail Prescribing and Dispensing Business; returns ve 300; rent £26; price £275.

Messrs. T. & T. have about 150 OTHER BUSINESSES on their Books for Dis al. Their **PRINTED REGISTER**, giving details, will be orw ded post free on application.

N —Appointments for Valuation should be made (if possible) at least eve days beforehand.

SALES BY AUCTION (continued).

HIGH STREET, DENBIGH.

MESSRS. DAVIES & ARMOR are instructed to OFFER for SALE by PUBLIC AUCTION, at the Royal Oak Inn, Denbigh, on Tuesday, ebruary 28, 1882, at three for four o'clock punctually, a FREEHOLD WELLING HOUSE, Shop, Garden, and Premises, High Street, Denbigh, in the occupation of Mr. William Edwards, chemist. It ons sts of a large double-fronted shop, with a commodious dwelling house, arehouse, outdoor offices, and garden, and having a frontage to the street f 38 eet. It stands in the most prominent position in this thriving market own and is unexceptionally the best business situation in the place. For he t 27 years the present owner has successfully carried on the business f chemist and druggist, the goodwill of which is of considerable value, and will be included in the purchase. For further particulars application may be made to Messrs. GOLD EDWARDS & WESTON, Solicitors, Denbigh, where a plan can be inspected; or to the Auctioneers, Denbigh.

BUSINESSES FOR DISPOSAL.

FOR SALE, a Genuine Drug Business in Midland Counties; returning 9 weekly; price about £300. Address, A. E. C., Evans, Sons & Co., Han er Street, Liverpool.

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LIVERPOOL.—A small old-established Dispensing and Prescribing usiness in the suburbs; large profits; as the proprietor is leaving England, an immediate purchaser would meet with a great bargain. D. C., care of Evans, Sons & Co., Hanover Street, Liverpool.

STAFFORDSHIRE.—A Bargain; a neatly-fitted Branch Shop; ready money and Prescribing (full price for Patents); immediate possession. Address, 155/16, Office of THE CHEMIST AND DRUGGIST, 44A Cannon Street.

IMMEDIATELY, an old-established Business in best position of Market Town in Sussex; with or without branch in the next town; easehold or either can be had; reason for disposal, proprietor taken arge business; to effect prompt sale, £950 will be taken for the two. Apply to A. Smart, 22 The Common, Woolwich.

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SMALL INVESTMENT with Remunerative Employment; a Share of a Valuable Proprietary Medicine, established many years, can be had; a purchaser would find this an advantageous and gentlemanly occupation. Address, by letter only, A.B., care of W. T. Manning, Esq., 2 Westminster Chambers, Victoria Street, S.W.

NUCLEUS of a good Business to be Disposed of cheap, opened about a year as a branch, in a favourite and rapidly-increasing suburb; handsome plate-glass commanding front; large garden, stable yard, and chaise house; rent £45 (stable can be let off for £10 a year); well fitted and stocked shop; price £250. 146/2, Office of THE CHEMIST AND DRUGGIST, 44A Cannon Street. No agents.

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PARTNERSHIP, WHOLESALE DRUG TRADE.—Efficient interested help is required in the management of an old-established Drug, Patent, and Sundry House (no heavy oils or groceries); returns at present are over £40,000 a year; capital required from £3,000 to £6,000; none need apply but those thoroughly conversant with the business and able to take a leading part in the supervision; to a likely applicant who can prove his *bona fides* ample opportunity for investigation will be afforded. Apply, in first instance, to "Dextrine," 12 Exmouth Street, Leeds.

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BRIGHTON AQUARIUM HOTEL; lease 20 years; to be LET or EXCHANGED, for ground rent, leasehold properties, or good equities; 34 rooms; sea view front and back. H., 75 Southgate Road, N.

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TO CHEMISTS.

SHOP TO BE LET in the Boston Road, Hanwell, W., one out of block of nine, where there is a capital opening; handsome plate-glass front; shop match-boarded throughout; good domestic arrangements; stabling will be built in rear approached by gateway entrance (if required) to suit tenant at expense of landlord. Apply Mr. G. Smith, Boston Road, Hanwell, W.

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WANTED, an experienced Traveller for the Wholesale Drug Trade. Apply stating full particulars, Messrs. Hirst, Brooke & Hirst, Leeds.

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CORDIAL and Syrup Manufacturer.—Wanted, a Manager, thoroughly experienced in this branch of an old-established Business in the country. Address, "Nemo," Messrs. Roberts & Son, Eastcheap and Botolph Lane, London.

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OUTDOOR, unmarried; a quick, energetic Assistant, seeking a permanency, to take entire charge of Retail Parcelling Counter; must be well recommended by last employer. Apply, stating age, height, experience, enclosing carte certain. Salary to commence at £80. Wand's Leicester Drug Store, Haymarket, Leicester.

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AN EXPERIENCED CLERK for the Wholesale (provincial); must be thoroughly conversant with the trade, a good and rapid writer, good correspondent, and of unexceptionable character; preference given to one who has some knowledge of shorthand; applications must contain full particulars of former engagements, age, and salary required; if not answered in 4 days declined. A. B., care of Horner & Sons, Mitre Square, Aldgate, E.C.

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OUT-DOOR ASSISTANT; ætat 23. J. W. R., 4 Eastgate Row, Chester.

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AS ASSISTANT in Mixed Trade; aged 25; height 5 feet 6½ inches. Address, H. C., Mr. Sibbleys, High Street, Brownhills, Walsall.

WANTED, by a man commencing travelling in the North of England, Commissions on Articles sold among Chemists, Druggists, and Drysalters. Address L. J., care of No. 9 Laura Street, Sunderland.

DRUGGISTS' DRYSALTERS.—By an experienced Man, as Manager or other trustworthy position. F. Haywoods, Stationer, Corn Street, Bristol.

AS ASSISTANT, to prepare and get up Stock of Proprietary Articles, &c., or in a Mixed Country Business. Over six years' reference from last employer; no objection to go abroad; age 32; height 5 ft. 8 in.; single. Address, C. N., 12 Chapel Street, Uxbridge, Middlesex.

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WANTED, by a Registered Chemist, an out-door Situation, to take the entire Management of a Country Business; aged 39; married. Address, stating salary, to H. Powell, Chemist, 4 Blythe Terrace, Wanstead Road, Forest Hill.

AS JUNIOR; aged 21; son of a medical man; height, 5 ft. 10 in.; accustomed to retail and dispensing; good appearance and willing to work; small salary. Address, W. S., care of Mr. Nottingham, L.D.S., 55 Pentonville Road, London, N.

WANTED, by a Gentleman of 16 years' experience, a permanent out-door Position in a good House of Business; accustomed to first-class English, French, and American Pharmacy; a watering place on South or West Coast preferred. Address, "Pharmacist," 1 Park Crescent, Torquay.

TO DRUGGISTS, DRYSALTERS, AND GENERAL MERCHANTS.—A Young Man, of long experience, seeks an engagement as Assistant; willing to be useful; can keep books and solicit. Address, X. E., Office of THE CHEMIST AND DRUGGIST, 44A Cannon Street.

C. WALLS, Chemist and Mineral Water Manufacturer, Newark, can well recommend a Young Man (having been with him five years) as bottler of mineral waters; would be very useful to a Chemist and Mineral Water Manufacturer.

ADVERTISER, Registered; aged 40; married; seeks employment as Manager or Traveller; is a total abstainer; good salesman; thoroughly conversant with prescribing and general country trade; highest reference from last employer. Chemist, 23 Millbay Road, Plymouth.

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OFFERS to represent a London firm at the Hygienic and Sanitary Exhibition at Berlin next summer. Apply to H. Poths & Co., 4 Sugar Loaf Court, Leadenhall Street, E.C.

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THE MOST RELIABLE & ALWAYS UNIFORM.

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24*s.* per gross carriage paid.

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Loose, at 7*s.* per gross, and in boxes at 8*s.*, 9*s.*, and 10*s.* per doz.; Extra-scented Violet Powder, prepared with wheaten starch, in 1*d.* boxes, 7*s.* per gross, 2*d.* boxes, 14*s.* per gross, ¼-lb. packets, 2*s.* 6*d.* per doz.; Prepared Fuller's Earth, in 1*d.* boxes, 7*s.* per gross, 2*d.* boxes, 14*s.* per gross, and ½-lb. boxes, 2*s.* per doz., through the Wholesale Houses, or from 29 OLD STREET, LONDON, E.C.; and will forward list of articles packed by him on application.

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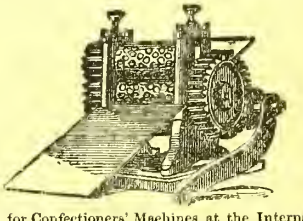

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THE CHEAPEST OF ALL. **Condy's Fluid** THE CHEAPEST OF ALL.

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Condy's Fluid	RED	1s. size,	4s. Dozen.
	„	2s. „	8s. „
	„	4s. „	16s. „
Condy's Fluid	GREEN	6d. „	3s. 6d. „
	„	1s. „	7s. „
	„	2s. „	14s. „
CONDY'S	OZONISED WATER ...	2s. „	8s. „
„	„ „ ...	3s. 6d. „	16s. „

OF ALL WHOLESALE HOUSES. WHOLESALE DISCOUNTS ON APPLICATION.

R. CONDY & CO., DISINFECTING FLUID MAKERS, FORD'S FOLLEY, LONDON, S.W.

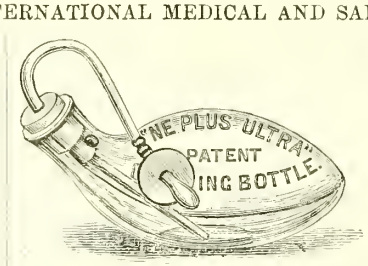
HONOURABLE MENTION, FOOD EXHIBITION, NOVEMBER 1881.

THE INTERNATIONAL MEDICAL AND SANITARY EXHIBITION AWARD OF MERIT TO THE

British Medical Journal: "A great improvement on ordinary feeding bottles."

Medical Press and Circular: "Decidedly the most perfect feeding bottle we have seen."

Lancet: "It is one of the best we have seen."



"NE PLUS ULTRA" FEEDING BOTTLE.

Invented by E. O. DAY, of the Royal Hospital for Children and Women

12s. per dozen, AND 20s. per dozen.

Spare bottles alone in box, 4/6 per doz.

Terms, cash with order.

J. EDMUNDS, 31 STAMFORD STREET, LONDON, S.E.

F. NEWBERY & SONS, WHOLESALE AGENTS

TRADE MARK.

G. F. SNOOK & SON,

TRADE MARK.

WHOLESALE & EXPORT MANUFACTURERS.

GENUINE Brown Arnicated Felt Corn and Bunion Plasters. **SUPERIOR** White Spread Felt Corn and Bunion Plasters.

FELT CHEST PROTECTORS. FELT CHEST AND LUNG PROTECTORS.

Chamois and Flannel Chest and Chest and Lung Protectors. Turkish Toilet and Bath Gloves in all New Patterns. Bath Straps and Sponge Pads.

Waterproof Sponge Bags, Bathing Caps, Nursing Aprons, &c.

Before you Order, send for Price List. Please Note the Address.

376 & 378 CITY ROAD, LONDON, E.C.

PATENT MEDICINES, DRUGGISTS' SUNDRIES,

PROPRIETARY ARTICLES, PERFUMERY, &c.

Catalogue and Price List of the above sent Post Free to all parts of the World on receipt of Trade Card.

MILLARD, SON & APPLETON,

40 CHARTERHOUSE SQUARE, LONDON, E.C.

ESTABLISHED 1849.

CURRY, LLOYD & CO.

(Late ALLEN PEARCE & CO.),

DRUGGISTS' SUNDRYMEN,

TRUSS AND SURGICAL APPLIANCE MAKERS,

10 and 11 BATH STREET, BRISTOL.

NEW PRICE LIST (1882) WILL BE SENT ON RECEIPT OF BUSINESS CARD.

SPECIAL QUOTATIONS.

PERFUMERY Of every known kind.

T. F. BRISTOW & CO.

Wholesale Perfumers & Fancy Soap Makers.

PRICE LISTS ON APPLICATION.

TOILET SOAPS Of every description.

oncentrated (various)
CHOICE ESSENCES
(IN BULK).
N 30, 12/ for 20 fluid ounces.
N 24, 9/6 „ „
N 18, 8/ „ „
AND IN doz.
ked Bottles .. 3/6 4/ 7/ 8/ 12/
nklers 4/ 7/6 8/ 12/
d Bottles .. 9/ 12/ 14/ 18/
and upwards.

POMADES, &c.
doz.
Assorted (tall or squat) 4/ and 8/
Nursery (large) ..... 4/ and 9/
Lime Juice & Glycerine 4/ and 8/
Glycerine and Lime Cream ..... 4/ and 8/
Brilliantine ..... 8/ and 12/
(separable and unseparable.)
Brilliantine (White Rose), Stoppered Bottles .. 8/ and 12/
Cherry Tooth Paste .. 4/ and 8/
Areca Nut „ „ .. 4/ and 8/
Lip Salve, pots & sticks 4/ and 8/

Special Soaps in Boxes.
doz.
Cold Cream Soap, 3 tablets in box 12/ and 20/
Coal Tar Soap, ditto.. 8/ and 12/
Carbolic, ditto ..... 8/ and 12/
Glycerne & Oatmeal do. 8/ and 12/
„ Transparent, do. 8/ and 12/
„ and Carbolic, do. 8/ and 12/
Lavender (Sweet), do. 8/ and 12/
Baby Soap, 4 tablets in box 9/
„ „ 12 ditto 27/
Family Economic, 4 ditto 8/
„ „ 12 ditto 24/
Thymol, 3 tabs. in box 8/ and 12/

Medicated Soaps
(IN WRAPPERS).
Carpet & Cloth Soap 3/6 and 7/ dz.
Dog Soap ..... 3/6 and 7/ „
Coal Tar (Family) 18/ and 27/ gr.
Carbolic „ 18/ and 27/ „
Camphrtd Winter 27/ and 39/ „
Fullers' Earth ..... 3/6 dz.
Jewellers ..... 4/ „
Petroleum ..... 4/ „
Pumice Stone ..... 3/9 „
Juniper Tar ..... 4/ „
Sulphur ..... 4/ and 8/ „
Zinc ..... 4/ and 8/ „

SOAPS (in Bulk).
Almond .....
Brown and White Windsor
Curd .....
Elder Flower .....
Glycerine .....
„ and Almond ....
Honey .....
„ and Almond .....
Oatmeal .....
Marshmallow .....
Rose .....
Sunflower .....
Transparent Glycerine ....
at 56/ 64/ 72/ 84/ and 112/ per cwt.

5 BISHOPSGATE AVENUE, CAMOMILE STREET, LONDON.

RIMMEL'S NEW SANITARY APPLIANCES.

RIMMEL'S AROMATIC OZONIZER, a fragrant powder which, simply spread on a plate in apartments or places of public resort, evolves the refreshing and healthy emanations of the Pine and Eucalyptus, and produces a quantity of *Ozone*, the great air purifier. Its clean and portable nature renders it far preferable to liquid disinfectants. It is in use in the principal Hotels, Clubs, and Theatres, and also in the Saloons and Cabins of several Lines of Steamships. In 4-oz. Tins, 1*s.*; 1-lb. Tins, 3*s.* 6*d.*; Spreading Plate, 6*d.*

RIMMEL'S OZONIZED EAU DE COLOGNE, LAVENDER WATER, or FLORIDA WATER, sprinkled on a pad hung up in the air, destroys bad smells and noxious effluvia in sick rooms, closets, &c. It is recommended also to be used on the handkerchief when attending crowded places, visiting the sick or travelling by land or sea. Price, 2*s.* 6*d.* and 5*s.* per Bottle; Pad, 1*s.*

RIMMEL'S AROMATIC OZONIZED CASSOLETTE, to carry in the pocket and preserve from infection, 6*d.*

N.B.—500 *detailed prospectuses containing certificates and testimonials sent with name and address to every purchaser of 3 dozen Aromatic Ozonizer.* 1*s. size.*

SOLD BY ALL CHEMISTS AND DRUGGISTS. THE USUAL ALLOWANCE TO THE TRADE.

EUGENE RIMMEL, PERFUMER TO H.R.H. THE PRINCESS OF WALES, 96 STRAND, LONDON.

JAMES'S TOILET SPECIALITIES.

JAMES'S HERBAL OINTMENT, for the Cure of Pimples, Black Specks, Blotches, &c., and taking away Tan Freckles, Sunburn, &c. Sold by all Chemists, 1/1½ and 2/9 per box.

JAMES'S DEPILATORY,

For the instant removal of Superfluous Hair. Sold by all Chemists. 1/- per box.

JAMES'S HERBAL POMADE,

For Promoting the Growth of the Hair, Whiskers, Beard, Mustachios, Eyebrows, and Eyelashes. Sold by all Chemists, 1/- and 2/- per box.

These Articles are well worthy the attention of Chemists, Wholesale Houses, and others, as they are being well advertised.

JAMES & CO., 226 Caledonian Rd., LONDON, N.

IRISH HILL MINING COMPANY
Produce from their
EMERALD FULLER'S EARTH QUARRIES
The celebrated and well-known
"EMERALD" BRAND.

It is of superior quality, and will compete with any other. Its advantages are :— Perfectly Soluble, entire freedom from Grit and Iron, and, containing nearly double the absorptive power of any other, it will do double the work.

FULLER'S EARTH.

Supplied in Kiln Dried Lumps or finely ground. Contracts for Regular Supply taken at low prices. Impalpable Powder specially for Oil and Colour Men and Domestic uses.

SOLE AGENT :—
GEO. G. BLACKWELL,
26 CHAPEL STREET, LIVERPOOL.
Also all Minerals, Chemicals, and Colours.

A PERFECT BOON TO MOTHERS!

ROGERS' "NURSERY" HAIR LOTION.

One application is guaranteed to destroy all Nits and Parasites in Children's Heads, and immediately allay the Itching and Irritation.

It is now used in Thousands of Families with the greatest success, and all who have tried it are delighted with the effect, and declare it to be worth A GUINEA A BOTTLE.

PREPARED ONLY BY
WILLIAM ROGERS,
CHEMIST,
BEN JONSON ROAD STEPNEY, E.
Sold in large Bottles, price ONE SHILLING. Sample Bottle, 7*d.*

SOLD BY ALL CHEMISTS AND PERFUMERS.

Observe! Genuine only in Yellow Wrapper, White Label.
WHOLESALE AGENTS.—Barclay & Son; Edwards & Son; Maw, Son & Thompson; Millard & Son; Sanger & Sons; Thompson, 121 New Oxford Street; Butler & Crispe, Cheapside; Hovenden & Sons, City Road.

ROBARE'S AUREOLINE,

OR

GOLDEN HAIR WASH.

The attention of the Trade is respectfully called to the above Article, now having a large sale, and giving an excellent profit to the Retailer.

5/6 size, 36/ per doz. 10/6 size, 72/ per doz.

SOLE WHOLESALE AGENTS—

R. HOVENDEN & SONS, LONDON.

WHITE AND SOUND TEETH.

JEWSBURY AND BROWN'S
ORIENTAL TOOTH PASTE.

This old-established and increasingly favourite Dentifrice has been Fifty Years before the Public. It is warranted to retain its properties and keep in good condition in any climate.

The original and only genuine is manufactured solely by

JEWSBURY and BROWN,
CHEMISTS, MANCHESTER,

and is distinguishable by the Trade Mark, printed in red and green, a facsimile of which is annexed. Particular attention should be paid to this guarantee of genuineness, as numerous imitations are offered.

Sold universally by Chemists and Perfumers, at 1s. 6d. and 2s. 6d.

The Trade and Shippers supplied by the leading houses in London and elsewhere. Bills and Show Cards forwarded on receipt of address card, and directions for enclosure.

WOODS'
ARECA NUT TOOTH PASTE.
For Removing Tartar and Whitening the Teeth, without injuring the Enamel. Sold in Pots, at 6*d.* and 1*s.* each.

WOODS'
QUININE, CANTHARIDINE, & ROSEMARY HAIR CREAM
(WITH GREASE), Restores the Hair if weak or falling off.
Price 9*d.*, 1*s.* 6*d.* and 3*s.* 6*d.* per bottle.

WOODS'
QUININE, CANTHARIDINE, & ROSEMARY HAIR WASH
Similar to the above (without grease). Price 1*s.* 6*d.* and 3*s.* 6*d.* per bottle.

WOODS' DANDRUFF POMADE.
Never fails. 1*s.* per pot.

Proprietor: W. WOODS, M.P.S., Chemist, PLYMOUTH.
SOLD WHOLESALE BY ALL LONDON HOUSES.

TRADE MARK

P. A. STEVENS,
CHEMIST AND SURGEON DENTIST,
70 Hyde Road, Hoxton,
And 72 Mansfield Road,
HAVERSTOCK HILL, N.W.

REGISTERED—NO. 3745. *Sole Proprietor and Maker of the*

PREPARED SILVERY WHITE GUTTA PERCHA ENAMEL,
FOR STOPPING DECAYED TEETH.

SILVERY WHITE GUTTA PERCHA ENAMEL.
36 squares in a box, to Retail at 1*d.* each; Wholesale Price, 1*s.* per box.

SILVERY WHITE GUTTA PERCHA ENAMEL.
On Show Card of half-gross, to Retail at 1*d.*, at 6*s.* per gross.

SILVERY WHITE GUTTA PERCHA ENAMEL.
12 sticks in a glass-lid box, to Retail at 3*d.*; Wholesale Price, 1*s.* 3*d.* per box.

SILVERY WHITE GUTTA PERCHA ENAMEL.
12 sticks in a glass-lid box, each stick enclosed in a Gelatine or Gilt Case; Wholesale Price, 2*s.* per box.

SILVERY WHITE GUTTA PERCHA ENAMEL.
12 boxes on a Show Card, to Retail at 6*d.* per box; Wholesale Price, 3*s.* 6*d.* per card in a box.

SILVERY WHITE GUTTA PERCHA ENAMEL.
In 1 oz. Sheet, 12*s.* per dozen.

SILVERY WHITE GUTTA PERCHA ENAMEL.
In 4 oz. Sheet, 3*s.* 6*d.* each.

P. A. S. can supply the above to Wholesale Houses, in any quantity, with their Name stamped upon each piece, cut in sticks any length.
The above to be obtained of all Wholesale Houses. PRICE LIST AND SAMPLES SENT POST FREE.
SPECIAL NOTICE.—The words SILVER WHITE GUTTA PERCHA ENAMEL are registered as a Trade Mark, and will be protected.

TO DENTISTS AND CHEMISTS.—Every description of Artificial Teeth made at greatly reduced charges. Best work and best materials only.

An Upper or Lower Set, inclusive of Teeth Rubber, &c., £1 1*s.*
Ditto, ditto, on Platina, £2 2*s.*
Send for Price List.

Twenty years' experience in mechanical work.
LESSONS GIVEN IN MECHANICAL DENTISTRY.
F. BUCK, 6 Hanover Place, Upper Baker Street, London, N.W.

C. LORYMER & CO.
(*Purchasers of the Stock and Plant of late firm of G. Salter & Co.*)
MANUFACTURING PERFUMERS AND BRUSH AND COMB DEALERS,
25 Percy Street, Rathbone Place, London, W.

LIST OF SPECIALTIES.

The "Perfect" and "Grip" Tooth Brushes	6/6 and 6/3 per doz.
"Octopus" Dentifrice, in wood boxes	8/ „
Dr. Startin's "Medela" or Antiscurf Pomade ..	8/ and 12/ „
Dr. Lincoln's Hair Renewer, in cases	24/ „
Tango Como, an instantaneous Hair Dye (Black or Brown)	20/ „
Mrs. Rossiter's Golden Hair Wash, in case	28/ „
Excelsior Brillantine for the Hair and Beard ..	8/, 10/, and 14/ „

10 *per Cent. allowed on Orders by post accompanied by cash.*

Dr. C. R. Coffin's AMERICAN DENTIFRICE.
Prepared only by WILLIAM DARLING, Chemist, Manchester. May be had from S. Maw, Son, & Thompson; Barclay & Sons; F. Newbery & Sons; Sanger & Sons; and any Wholesale House in London. Price 2*s.* per Box, and Family Jars 10*s.* each.

OKELL'S ORIGINAL MONA BOUQUET
Retail, 1/, 1/9, and 3/6; Wholesale, 9/, 15/, and 30/ per doz.
This much-admired Perfume (prepared by the Widow of the late Joseph Okell), may be obtained from the leading Patent Medicine Houses, Wholesale Druggists, and Druggists' Sundry Dealers.
Applications for WHOLESALE Agencies to be made to the SOLE CONSIGNEE, **THOMAS WEST, Chemist, Stretford, Manchester.**

EWENS' CLARIFIED LARD, MARROW, SUETS, AND OILS.

JAMES EWEN & SONS are induced to give further publicity to these articles, the continued demand by all who have used them being satisfactory proof "that where purity of basis" in ointments, &c., is required, they are most desirable.

By their method of purifying, the fats are not chemically altered, but simply divested of all particles tending to decomposition, they are consequently available for the most delicate preparations.

Adeps. Benz. B. P. and Pharm. Lard (*vide* P. J. Vol. I. No. 8). Direct, "for Cash only," from

JAMES EWEN & SONS' CLARIFIED FAT WORKS,
5 HATFIELD STREET, STAMFORD STREET, S.E.;
Or through any of the Wholesale Houses, with their usual credit, at a small advance.

CAUTION.—See that each package bears their label with name and weight.

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WHITAKER & GROSSMITH'S PURE WHITE GLYCERINE SOAP.

Only Perfumed, and guaranteed to contain the necessary quantity of GLYCERINE for effectually imparting to the SKIN the softening and healing properties for which it is so justly famed. 1s. 6d. Boxes of Three Tablets, 12s. per Dozen Boxes.

SELECT TOILET PREPARATIONS, extensively increasing in demand, which attests their excellent quality.

TOILET SOAPS.	Per doz.	BOUQUETS.	Per doz.	POMADES, &c.	Per doz.
Cent-Fleur (copyright)	2/6 Boxes of 3 tablets 20/	Cent-Fleur (copyright)	In Glass Stoppered or Sprinkling cap Bottles. 12/	Cent-Fleur (copyright) ...	8/, 12/ & 20/
Jockey Club „	1/6 „ 12/	Jockey Club Bouquet...		Petroleum Pomade ...	12/ & 18/
Sandringham „	1/6 „ 12/6	Ess Bouquet	20/	Brilliantine	8/, 12/ & 20/
Eucalyptus Oil „	1/6 „ 12/	Frangipanni		Anglo Eau de Cologne ...	8/ & 12/
Wild Thyme (Thymol)	1/ „ 8/	Pearl of Perfumes ...	28/	Eucalyptus Vinegar ...	12/ & 20/
Mid-Cut Bars „	1/ Bars of 6 kinds 8/6	Lime Tree Blossoms ...		White Cherry Tooth Paste	8/ & 12/

Trade Price Lists sent and Orders executed through Wholesale Houses, or direct from the Manufacturers,

WHITAKER & GROSSMITH, 22 SILK STREET (REMOVED FROM 120 FORE STREET), **LONDON, E.C.**

AEI THE MOST PERFECT MARKING INK,

For Writing or Stamping on Linen, Cotton, Silk, &c.

The advantages of this Ink are that it requires no heat, flows freely from the pen, does not blot or run, and cannot be removed without destroying the fabric. Sold in Bottles, 6*d.*, 1*s.*, 2*s.* 6*d.*, 4*s.* 6*d.*, 7*s.* 6*d.*, and 12*s.* 6*d.* each, by all Chemists and Medicine Vendors.

WHOLESALE DEPOT—

BANBRIDGE & POUND, 60 LEATHER LANE, LONDON.

A Liberal Discount to Large Buyers and Shippers.

LETCHFORD'S CHEMICAL MARKING INK.

Established 40 Years.

This Article has been persistently sold by a great number of Chemists for many years, as it can always be relied on both for Quality and Quantity, giving satisfaction to everybody. To Shippers, as well as the Trade generally, this is of the greatest importance.

Sold in Round Cases and Pedestals, at 6d. and 1s.

To be had of all Patent Medicine Houses. [2]

LETCHFORD & CO.,

63 WILSON ST., FINSBURY, LONDON.

INDEX TO ADVERTISEMENTS,

SEE PAGES 21, 22.

GIVEN AWAY

WITH

BOND'S CRYSTAL PALACE GOLD MEDAL MARKING INK.

(Prepared by the Daughter of the late John Bond),

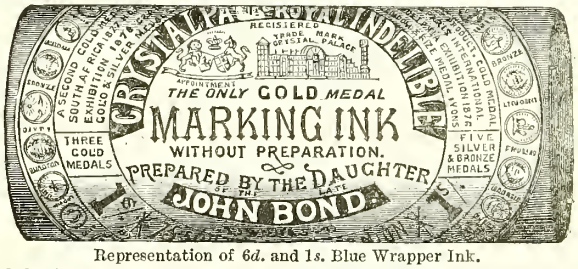
AN ATTRACTIVE AND NOVEL GOLD SHOWCARD,

With Inks affixed, and so constructed that it can be either suspended in the Window or used as a Counter Card. Quite a Novelty; or a

TRANSPARENT LID BOX OF NEW DESIGN.

By exposing a Card or Box in Window and on Counter, you will find Sale considerably increased.

WHOLESALE TRADE TERMS—Blue Wrapper Ink, 6*d.*, 30*s.*; 1*s.*, 60*s.* per gross. Pedestals, 6*d.*, 36*s.*; 1*s.*, 72*s.* per gross.



Representation of 6*d.* and 1*s.* Blue Wrapper Ink.

NO HEATING REQUIRED. ENLARGEMENT OF BOTTLES.

Caution to Wholesale and Retail Vendors.—Costs and Damages awarded in actions tried December, 1875, and November, 1877, for selling and manufacturing Colourable Imitations. To secure the genuine article please order of your Wholesale House, "BOND'S (Daughter of the late John) CRYSTAL PALACE MARKING INK."

Works: 75 Southgate Road, London.

CAUTION.—In consequence of daily complaints of other inks being substituted, kindly write full particulars to the Proprietor.

PHŒNIX ESTABLISHED A.D. 1815. GENUINE INDELIBLE MARKING INK

MANUFACTURER OF INDELIBLE MARKING INK TO HER MAJESTY'S ARMY CLOTHING DEPARTMENT.

THE LEADING & STANDARD ARTICLE

PREPARED ONLY BY THE WIDOW OF THE LATE

JOHN MURPHY

CHEMIST AT THE ORIGINAL ESTABLISHMENT

11, NILE STREET, EAST ROAD, HOXTON N.

THE ORIGINAL

TRADE MARK. Estab. 1815.

NO OTHER ADDRESS — BEWARE OF WORTHLESS IMITATIONS.

HYDROGEN PEROXIDE.

For Bleaching Hair, Feathers, Wax, Ivory, &c., &c.

12 VOLUMES.

Price 2/6 per Pound; 11/6 per Winchester Quart; or 20/ per Gallon.

Bottles extra. Net Cash with Order.

J. BRODIE, Manufacturer,
41 MUSEUM STREET, LONDON, W.C.

GOLDEN HAIR WASH

Produces, by two or three applications, the beautiful Golden Colour so much admired.

WARRANTED PERFECTLY HARMLESS.

1/0 size, 6/0 per dozen.
2/6 „ 15/0 „
3/6 „ 21/0 „
5/0 „ 30/0 „

Put up in an attractive and saleable form.

J. BRODIE, Manufacturer,
41 MUSEUM STREET, LONDON, W.C.

PAUL METZ,

10 JEWIN STREET, ALDERSGATE STREET, LONDON, E.C.,

Manufacturer of Best Quality

"WHEEL BRAND" WHITE WILLOW BOXES.

Agent for the best Continental Manufacturers of
Chemical Glass and Porcelain Apparatus, Thermometers, &c., Camel-hair Pencils, Sash Tools, &c., &c.

AND SOLE AGENT FOR THE TAMARIND LOZENGES. KANOLDT.

Delicious Medicated Conserves, for the Relief and Cure of Constipation, which will not gripe, and are also otherwise superior to any other similar preparation in the market.

BURROUGH'S SPIRITUS RECTIFICATUS, P.B.

SPIRITS OF WINE CHEMICALLY PURE.

The Best English Grain Spirit, Free from Fusel Oil.

56 over proof, 20s. per gallon; 60 over proof, 20s. 6d. per gallon; less 6d. per gallon for five gallons. Lower quotations for quantities. Cash on delivery or with order. Country Orders must contain remittance or reference to London House.

CALE STREET DISTILLERY, LONDON, S.W.

Also Duty Free for Exportation. Best Methylated Spirits at Lowest Prices.

SPONGE.

M. PETERSON & CO., Importers,

66 SOUTH JOHN STREET,

LIVERPOOL.

For Home, Foreign, and Colonial Markets.
Wholesale only.

W. S. YATES,

Chemists' Shop Fitter, Shop Front Builder, and Glass Show Case Maker.

DENTIST CASES.

PLANS AND ESTIMATES SUPPLIED FOR WORK IN ANY PART OF THE KINGDOM.

9 CAMDEN STREET, LIVERPOOL.

PURE SPIRITS OF WINE

FOR

TINCTURES, ESSENCES, PERFUMES, &c.,

OXFORD ROAD DISTILLERY, MANCHESTER.

MESSRS. SMITH & GIBB

Beg to call the attention of CHEMISTS and DRUGGISTS to the undermentioned Prices of Pure Spirits of Wine:—

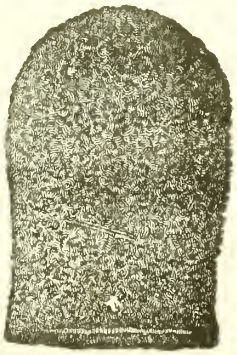
Strength per cent.		Specific Gravity.		Price per gallon.
63 over proof	..	0·8238	..	20/6
60 „	..	0·8298	..	20/0
55 „	..	0·8366	..	19/6
50 „	..	0·8482	..	19/0

Terms—Cash on Delivery. Jars to be returned or paid for.

For Exportation, Cask included, 4/0, 60 O.P., F.O.B.

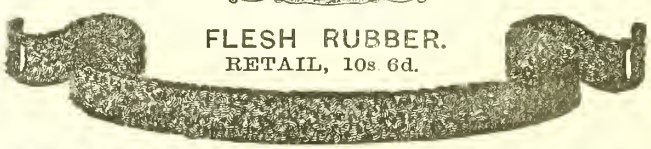
Orders from the country must be accompanied with a remittance, including the price of the Jars, which are charged as follows:—2 galls. 3/-; 3 galls. 3/6; 4 galls. 4/-; 5 galls. 5/6; 6 galls. 6/-. When the empties are returned the money will be repaid.

GLOVE.
RETAIL, 2s. & 3s. each.



BY HER MAJESTY'S *ROYAL LETTERS PATENT.*

FLESH RUBBER.
RETAIL, 10s 6d.



INDIA RUBBER FLESH GLOVE AND RUBBER.

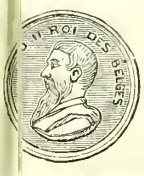
This is an Entirely New Application of India Rubber, and lovers of the Bath pronounce them

THE ONLY EFFICIENT FLESH GLOVE AND RUBBER.

Being always absolutely Rough in hot or cold water, **they are altogether unique.** They **cannot scratch the body,** and produce a fine lather with Soap. They are manufactured from **Pure India Rubber** (the properties of which are peculiarly cleansing and genial to the skin), and retain their strength for many years.
Wholesale of Druggists' Sundriesmen, Perfumers, &c.

I. LIVERMORE, Patentee.

SPONGES!



GOLD MEDAL AWARDED,

BRUSSELS EXHIBITION, 1881,

TO

R. CRESSWELL & CO.,

SPONGE MERCHANTS & IMPORTERS,

32 Red Lion Square, London;

AND AT PIRÆUS AND SMYRNA.

ESTABLISHED 1850.

Messrs. R. C. & Co. having secured their supplies on the Fisheries for the year 1882, previous to the general advance of 10 to 15 per cent. in prices, are enabled to maintain their last year's quotations.

PRICES CURRENT OF SANDED AND SANDLESS SPONGES,

IN ORIGINAL CASES AS IMPORTED.

HONEY-COMB SPONGES.

No.	Qlty.	Pieces in case about	Price case. £	s.	d.
1	1st Finest selected shapes, assorted sizes	130	12	0	0
2	1st Do. do. ...	75	7	0	0
3	1st Do. do. ...	45	4	0	0
4	1st Small selected shapes	275	7	0	0
5	1st Superior do. large Bath sizes	25	7	0	0
6	2nd Do. quality shapes, assorted sizes...	125	8	0	0
7	2nd Do. do. do.	75	4	4	0
8	2nd Good quality shapes, small ...	275	3	10	0
9	2nd Do. do. large Bath sizes	25	5	0	0
10	3rd Do. do. assorted sizes ...	145	5	5	0
11	3rd Do. do. do. ...	90	3	10	0
12	3rd Do. do. large Bath sizes	25	3	0	0
13	4th For Stable use, &c.	125	1	5	0

FINE TURKEY SPONGES.

14	1st Finest selected Cups, assorted sizes	110	18	0	0
15	1st Do. do. do.	55	10	0	0
16	1st Do. do. Bath sizes	35	12	0	0

Fine Turkey Sponges—*continued.*

No.	Qlty.	Pieces in case about	Price case. £	s.	d.
17	2nd Superior Cups, assorted sizes ...	110	12	0	0
18	2nd Do. do. ...	55	7	0	0
19	2nd Do. Bath sizes ...	35	9	0	0
20	3rd Fine Cups, assorted sizes ...	110	9	0	0
21	3rd Do. do. ...	65	5	5	0
22	3rd Do. Bath sizes	35	7	0	0
23	1st Turkey Solids, assorted sizes ...	115	7	0	0
24	2nd Do. do. ...	110	5	10	0
25	1st Flat Saddle, assorted sizes ...	55	9	10	0
26	1st Do. do. ...	35	6	0	0
27	2nd Do. do. ...	55	6	5	0
28	2nd Do. do. ...	35	4	0	0

BROWN TURKEY SPONGES.

29	1st Finest selected, assorted sizes ...	140	4	10	0
30	1st Do. do. ...	75	2	15	0
31	2nd Superior quality, do. ...	140	3	3	0
32	2nd Do. do. ...	75	2	0	0
33	3rd Slate quality, do. ...	350	1	1	0

The above may be had Sanded or Sandless, as required.

ALL COMMUNICATIONS TO BE ADDRESSED TO LONDON OFFICES.

EAU DE COLOGNE

OF THE MOST ANCIENT DISTILLER,

JOHANN MARIA FARINA,

Opposite the Julichs Place, COLOGNE.

ESTABLISHED A.D. 1709.

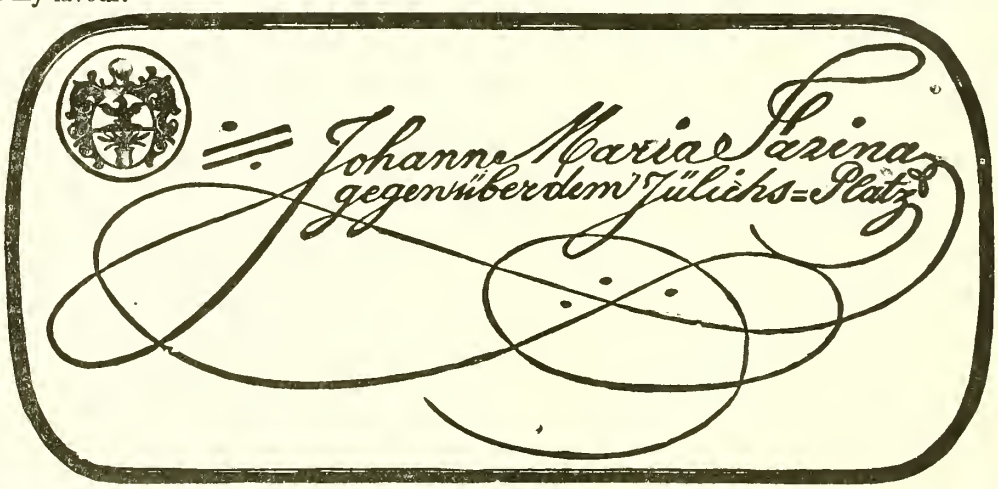
PRIZE MEDALS:—LONDON, 1851 AND 1862; OPORTO, 1865; PARIS, 1867; VIENNA, 1873.

By appointment, Sole Purveyor to Her Most Gracious Majesty Victoria, Queen of Great Britain & Ireland; Their Royal Highnesses the Prince and Princess of Wales; William, King of Prussia;

Albert II., King of Saxony; Alexander II., Emperor of Russia; Francis Joseph, Emperor of Austria; Lewis, King of Portugal; H.R.H. Frederick William, Crown Prince of Prussia.

In consequence of increasing inquiries from the Colonies for my Eau de Cologne, the only genuine, I beg to submit my Price Current.

At the same time I beg to call special attention to the following facsimile of my Trade Mark, for the protection of which I have instituted thirteen suits in the High Court of Chancery, all of which have been decided in my favour.



All similar Labels being more or less imitations of the same, I shall proceed as before against all persons selling or exposing for sale any such imitations.

I only prepare one quality of Eau de Cologne. This quality never varies in the slightest degree, and there has not been the smallest change in the manufacture since the year 1709, when it was invented by my ancestor.

Orders equal to at least 12 dozen short bottles will be promptly executed at 12*s*. 6*d*. per dozen, against my bill drawn at three months from the date of invoice, delivered free on board the export ship, at Rotterdam, Antwerp, Hamburg, or Bremen, no charge being made for the case and packing, but insurance charged extra. 7½ per cent. discount is allowed for orders equal to at least 100 dozen, but on no smaller quantities.

I may add that, as I do not draw on the Colonies, all Orders must be accompanied by a credit on some London House, or permission to draw on same at three months.

The Goods can also be shipped in transit through London at a very small additional expense, full particulars of which may be obtained of my Sole Agents for Great Britain and Ireland:—

MESSRS. J. & R. McCRACKEN,

No. 38 Queen Street, Cannon Street, London, E.C.

The following are the sizes of my bottles:—

No. 1.	Long Green Flasks	12 bottles	to one dozen.
„ 2.	Short White Bottles	12 „	
„ 3.	Double ditto	6 „	
„ 4.	Wickered Bottles (small)	8 „	
„ 5.	ditto (medium)	4 „	
„ 6.	ditto (large)	2 „	

JOHANN MARIA FARINA,

COLOGNE: *January*, 1882. OPPOSITE THE JÜLICHS PLACE.

THE "OTTO" SILENT GAS ENGINE.

NO BOILER OR STEAM NEEDED.

HIGHEST AWARDS AT SYDNEY AND MELBOURNE EXHIBITIONS.

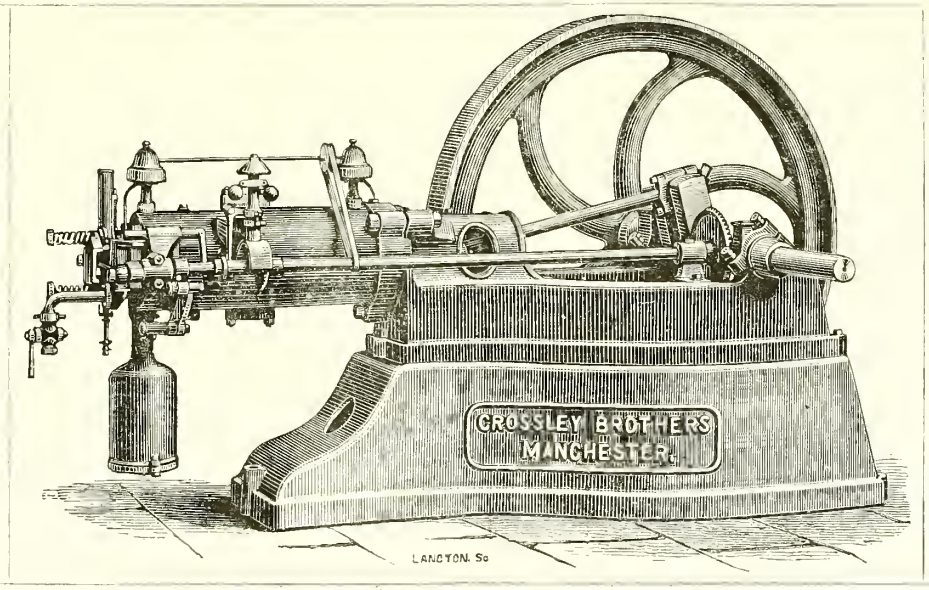
Over 6,000 Ottos now at Work.

Particularly suitable for Aerated Water Work, Drug Grinding, Hoisting, &c.

Please write for Special List of Engines doing this Work, and Testimonials.

LONDON HOUSE:
24 Poultry.
LIVERPOOL STORE ROOMS:
Basement, Corn Exchange.

STARTS AT A MOMENT'S NOTICE.



STARTS AT A MOMENT'S NOTICE.

The **ONLY GAS ENGINE** which received a **GOLD MEDAL** at the Paris Electrical Exhibition.

Over 6,000 Ottos now at Work.

ADVANTAGES AS
Compared with Steam.

No Heat.	No Danger.
No Dirt.	No Chimney.
No Dust.	No Smoke.

No Extra Insurance.
No Glands to Pack.
No Safety Valves to Watch.
Always Ready.
Occupies little Space.
Requires no constant attendance.
May be run Night and Day.

GLASGOW HOUSE:
193 Sauchiehall Street.
BRISTOL HOUSE:
127 Redcliff Street.

SIZES { Nominal Horse Power ... ... ½ 1 2 3½ 6 8 12 16 25
Maximum Indicated Horse Power 1.1 2.26 3.96 5.9 11.57 14.7 23.1 36 to 40 60 to 70 } **OFFERED.**

CROSSLEY BROTHERS,

LIMITED,

CALEDONIAN FOUNDRY, MANCHESTER.

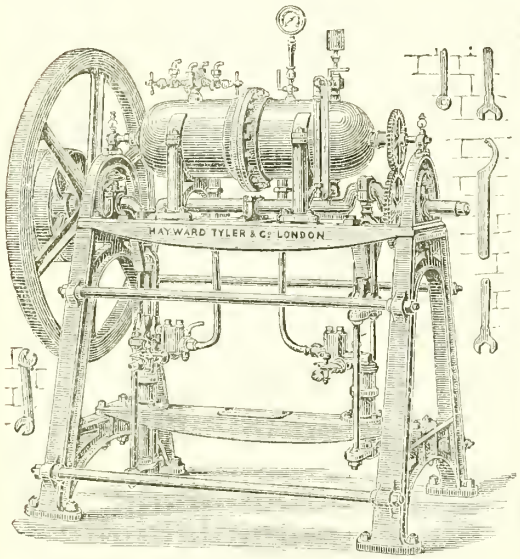
AGENCIES WITH STOCK AT ALL PRINCIPAL COLONIAL PORTS.

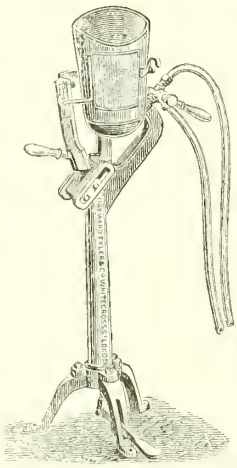
HAYWARD TYLER & CO.

GOLD MEDAL, PARIS, 1878, FIRST AWARD, MELBOURNE, 1881,

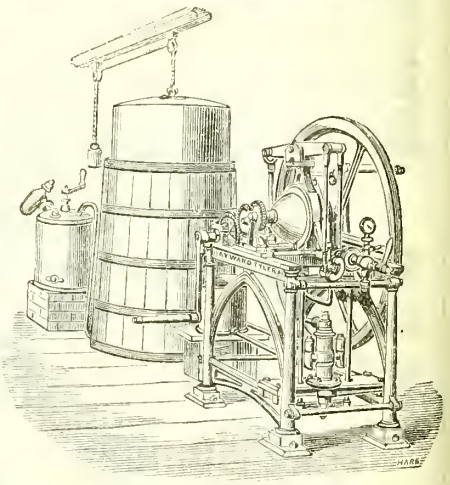
FOR

SODA WATER MACHINERY.





Bottling Machine.



Bramah Beam Action Soda Water Machine.

[1]

ENGINEERS, 84 WHITECROSS STREET, LONDON.

NOVELTIES IN BOTTLES AND STOPPERS.

THE

GLASS, EBONITE, PORCELAIN, &c. DISC BOTTLE,

WITH NEW PATENT PURE RINGS,

SIMPLE, PERFECT, UNIQUE.

Likely to supersede all other Patent Bottles.

The Disc effectually covers the rubber when the bottle is filled.

These Bottles and Ebonite and Porcelain Discs can be supplied at a cheaper rate than the Prepared Glass, as No. 1.

THE SCREW STOPPER & BOTTLE,

For Ales, Porter, Cider, and Brewed Beer.

The Screw Stoppers can be attached to the necks of the Bottles by a band of wire and a small chain, if preferred; price about 3*s.* 6*d.* extra. *See Fig.* 4.

When bottling, the Stoppers must be wetted before screwing them in. Screw it gently but firmly home.

They should not be subjected to the action of any strong alkali, or great heat, and are not recommended for bottling spirits at present.

Essential and Indispensable for every Refreshment Room Proprietor, for every Hotel and Public-house, and for every Householder.

Our other, and well-known Stoppers, &c., still supplied as usual.

SAMPLES ON APPLICATION.

OUR ORIGINAL AND WELL-KNOWN STOPPERS HAVE NOW BEEN IN USE FOR YEARS BY UPWARDS OF 1,000

MINERAL WATER MANUFACTURERS AND OTHERS THROUGHOUT THE UNITED KINGDOM AND THE WORLD.

BARRETT & ELERS, 9 Dacre Street, Westminster, LONDON, S.W.

H. G. WILCOCKS' List of SODA-WATER MACHINERY, &c., for 1882, at BACK STREET, BATH. Cash Prices are quoted Net at our Works, Machinery of every description constantly being added to and sold from Stock:—

SODA-WATER MACHINE to make 800 dozen per day, with strap pulley, 2¼ Bramah Principle Pump, dial and water gauges, 6-gallon condenser, copper gas-holder in oak tub, and lead generator, all mountings tested, new. **£45.**

SODA-WATER MACHINE to make 400 dozen per day, has strap pulley, also handle for hand-power, 1¾-in. Bramah Principle Pump, 4-gallon condenser, dial and water gauges, copper gas-holder in oak tub, lead generator, all mountings tested, new. **£35.**

SODA-WATER MACHINE to make 600 dozen per day, pulley handle wood frame, with a new 2-in. Bramah Principle Pump, 9-gallon condenser, dial and water gauges, copper gas-holder, oak tub, lead generator, second-hand. **£25.**

"THE FAVOURITE" Bramah Principle, pure and simple, made in six sizes, in progress of manufacture to order in various stages.

SODA-WATER MACHINE, gauges, Bramah Principle Pump, lead generator, copper gas-meter, corking bottling rack, patent filling machine, 500 dozen daily, recipes, combined self-contained engine and boiler. All mountings can be seen at work by appointment. **£50.**

SODA-WATER MACHINE to make 200 dozen per day, strap pulley gauges, handle, gas-work, corking rack, filling machine for patents, &c. **£32 10s.**

SODA-WATER MACHINERY, all sorts, new and second-hand.

AMERICAN PRINCIPLE SODA-WATER MACHINE, by Davenport, two washers, gauge rocker, 12-gallon cylinder, charging pipe, 30 dozen daily, recipes, directions, a Wilcocks filling machine, all for **£40.**

DOUBLE SODA-WATER PUMPS, new, Bramah Principle, 2-inch, has index cocks, unions, solution pan, buoy valve, 2½-inch wrought-iron forged crank, strap pulley, turned fly-wheel, to make 1,000 dozen per day. **£3 10s.** New pattern, 1882.

DOUBLE SODA-WATER PUMPS, new Bramah Principle, 2½-inch, ram plunger, pulleys, span, turned fly-wheel, &c. **£32 10s.**

SINGLE 2-inch PUMP, in frame, fly-wheel, forged crank, strap pulley. **£15.**

DOUBLE MACHINE, two 2-inch Bramah Pumps, in massive frame, big condenser, gauges, gas-work, two racks. **£85 10s.** All new patterns, 1882, in working order.

2-INCH, 2½-INCH, AND 3-INCH DOUBLE PUMPS AND CYLINDERS, new patterns for 1882, with generators and gasometers of vast proportions.

COPPER CYLINDER on iron stand, gauges, agitator, pulleys, on and off gear, safety valve, carefully tinned internally, inlet and outlets, 14 gallons. **£16,** new.

COPPER CYLINDER, similar to above, 10-gallon. **£14.**

LARGE MASSIVE GUN-METAL CONDENSER, globular form, about 25 gallons, agitator, strap pulley, gauges, safety valve, inlet, outlets, unions, and all connections, on iron stand, polished and painted like new, first-rate condition, at **£25:** worth double. About 2½ cwt.

CYLINDER, with agitator, on stand, and all mountings, &c.; about 9 gallons. **£10.**

COPPER CYLINDER, with agitator, strap pulleys, on and off gear, agitator, gauges, connections, and all mountings (all new for 1882), on massive iron stand, **£30.** To hold 30 gallons.

STEAM-ENGINES and BOILERS, various sizes, in stock.

COMBINED STEAM-ENGINE and BOILER, 6 ft. 6 in. by 2 ft. 6 in. multitubular, all self-contained, all mountings: turned fly-wheel, strap pulley, feed pump, and stoking irons (all new). **£70.**

VERTICAL COMBINED STEAM-ENGINE and BOILER, on one foundation-plate, all self-contained, all mountings; boiler, 4 ft. 2 in. by 2 ft. 10 in.; cylinder, 3½-in. diameter by 7-in. stroke; fly-wheel, governor, pulley, feed pump; latest pattern. **£40.**

AMERICAN PRINCIPLE SODA-WATER MACHINE, new, with No. 2 Generator, two 15-gallon cylinders, gauges, purifiers. **£65.**

OAK GENERATOR, holds 120 gallons, new, has copper shaft, gun-metal rousers, inlet and outlet, all connections. **£15.**

LEAD GENERATORS, from **£4** each and upwards; a number in stock.

LARGE LEAD GENERATOR, on cast-iron stand, copper shaft, gun-metal ronsers, all connections, &c. **£15.**

OAK TUB, 4 ft. 8 in. high by 2 ft. 6 in. diameter across top, with copper gas-holder, iron pulleys, chain, weight, internal pipes and connections **£8 10s.**

OAK TUB, 5 ft. 4 in. high by 5 ft. 4 in. across top, copper gas-holder, etceteras as above. **£16 10s.**

OAK TUB, 5 ft. 4 in. high by 3 ft. 6 in. across top, 1½ in. oak, copper gas-holder, &c., as above. **£15.**

OAK TUB, 6 ft. high by 5 ft. 4 in across top, copper gas-holder, &c., as above. **£22 10s.**

OAK TUB, 4 ft. 6 in. by 2 ft. across top, copper gas-holder, &c., as above. **£5.**

NEW COPPER STEAM PAN for boiling syrups, 35 gallons, in strong cast-iron jacket, on stand with all mountings. **£13.**

NEW CAST-IRON ENAMELLED JACKETTED STEAM PAN, on iron stand, 10 gallon, with all mountings. **£6.**

BOTTLE-BRUSHING LATHE for bottle washing, with spindle to take two brushes, massive standards and fly-wheel and treadle of iron, can also be worked by power. **£3 5s.**

WILCOCKS' MATCHLESS FILLING MACHINE (TUBE), lever action, new for 1882, for patent internal stopper bottles. **£5.**

SECOND-HAND CORKING RACK, Manchester Style, as good as new, **£4 10s.**

SPECIAL HEAVY EXTRA STRONG DIAL PRESSURE GAUGES, 300 lbs., the latest and best, superior. **£1 10s.**

SODA-WATER VAN, light, stylish, elegant, new, to carry 60 to 70 dozen Soda Water; bed over all 9 ft. 7 in., including foot-board, is 8 ft. inside bed, by 3 ft. 6½ in. wide, by 20 in. deep, without rail. hind wheels 4 ft. 3½ in. high, front wheels 2 ft. 10½ in., tires 1½ in. wide, with long-bolt mail patent axles, side springs, one cross spring; will carry a ton; painted, varnished, picked out, lettered, superior. **£30.** Has lever brake, but lamps are extra, engraving free.

GALVANISED IRON TANKS, all sizes in stock.

SLATE CISTERNS, all sizes in stock.

SHAFTING HANGERS, plummer-blocks, pulleys, suitable for soda-water factories.

NIPPLE-BOTTLING FILLER on stand. **£2 10s.**

4-HORSE POWER NEW VERTICAL STEAM-ENGINE, with 6-horse power vertical multitubular boiler, with all mountings, gauges, stoking irons, &c., all self-contained on one foundation-plate, fly-wheel, pulley, feed pump. Latest pattern ready.

2½-HORSE POWER HORIZONTAL STEAM ENGINE, 5¼-in. cylinder by 9-in. stroke, with governors, feed-pump, fly-wheel, strap, pulley, self-contained on one bed-plate, hundreds in use our make. **£18 10s.**

STEAM-ENGINE, 1-horse power, governor, fly-wheel, strap, pulley, self-contained. **£10.**

SODA-WATER FACTORIES fitted throughout, estimates free.

PARTIES desirous of seeing any machine or to see it at work should write in time to receive a reply before coming over.

SODA-WATER MACHINE by S. Barnett, second-hand, for hand-power.

2-HORSE POWER COMBINED VERTICAL STEAM-ENGINE AND BOILER, multitubular, 6 ft. by 2 ft. 6 in., with Soda-Water Machine, 2½ double pumps, gas-work condenser, bottling racks, all tested in working order, ready.

2-HORSE POWER VERTICAL COMBINED STEAM-ENGINE AND BOILER, 5 ft. 6 in. by 2 ft., multitubular, with double Soda-Water Machine, 2-in. double pumps, condenser, gas-work, bottling racks, all ready, &c

SECOND-HAND LONDON-MADE CORKING RACK, as good as new. **£5.**

VERTICAL LEAD GENERATOR, in cast-iron frame, with a horizontal agitator of copper shaft and gun-metal ronsers, one end fitted with bolts and nuts, arranged so that it can be readily taken apart for examination, &c., if required, has fast and loose pulleys for power, and is made in several sizes to order; for instance, to hold about 450 gallons, 3 ft. 8 in. diameter by 7 ft. 6 in. high. This size of lead generators, with all mountings. Price here, **£100.**

SODA-WATER MACHINE, ram-plunger pump in frame of iron, condenser on stand, horizontal lead generator, copper gas-holder in oak tub, gauges, pipes, &c., to make 800 dozen daily. **£40.**

2-INCH DOUBLE PUMPS, with huge forged wrought-iron crank in cast-iron frame, with turned fly-wheel strap, pulleys, ram plunger, Bramah Principle Pumps, index cocks, with big copper condenser, two dial and two water-gauges, to hold 40 gallons, all new for 1882. **£105.**

400-GALLON OAK GENERATOR, 3-in. oak, in progress.

SEVERAL LARGE OAK CONDENSERS, finished and in progress.

WILCOCKS' "COUNTRY-MADE" SYPHON BOTTLES. **£1** per doz.

OAK STEAM VAT AND STOUT COPPER COIL, properly tinned, stout oak, galvanized hoops, and all connections. 100-gallon size, **£6 10s.**

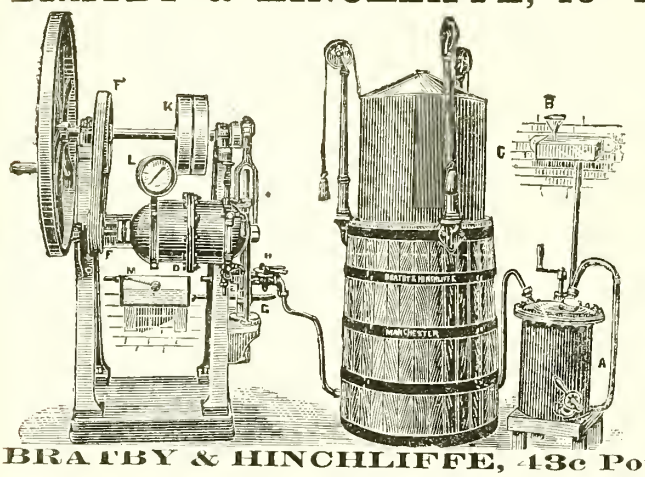
Bath City Brassfoundry & Iron Works; Cooperage, Soda Water & Lemonade Machinery. Engine & Boiler Manufactories, BATH.

SODA WATER MACHINERY,

AND ALL ACCESSORIES USED IN THE TRADE, BY

BRATBY & HINCHLIFFE, 43c Pott St., Ancoats, Manchester,

AND THE NOW FAMOUS



Lilliputian Soda Water Plant,

See Engraving,

Which is made specially for new beginners & small makers.

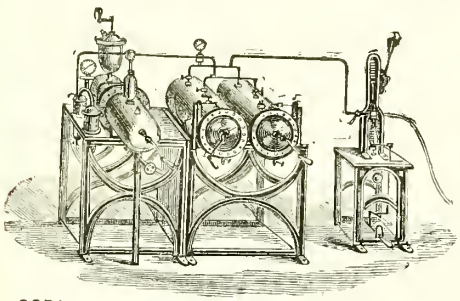
No. 1 Plant makes 400 doz. per day, and is fitted with 1¾ Pump and 2 gall. Cylinder, with Gasometer and Generator. PRICE £52 10s. No extras.

No. 2 Plant makes 600 doz. per day, and is fitted with 2¼ Pump and 4 gall. Cylinder, with Gasometer and Generator. PRICE £63. No extras.

Descriptive Circular forwarded post free on application

Every Purchaser of our Soda Water Machinery should obtain our "MONTHLY LIST" of New and Secondhand Appliances, and also our Circular and Price List of Specially Prepared *Deresinized Soluble Essences and Essential Oils* and other Drugs used by the Trade, which are much stronger and 30 per cent. cheaper than is usually offered.

BRATBY & HINCHLIFFE, 43c Pott St., Ancoats, MANCHESTER.



SODA WATER MACHINE COMPLETE, WITH RACK.

SODA WATER MACHINERY,

ALL KINDS.

PATENT STOPPERED BOTTLES

ALL KINDS.

ICE-MAKING MACHINES,

AN ALL REQUIREMENTS OF EITHER TRADE.

SEPARATE CATALOGUES, POST FREE.

BEFORE BUYING, SEND FOR CATALOGUE TO

DAVENPORT & CO., 99N High Holborn, LONDON.

ALSO AGENTS FOR

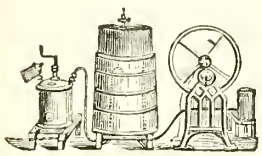
HAYWARD TYLER & CO.'S MACHINERY. | CHEAVIN'S FILTERS.
BARRETT'S PATENT BOTTLES. | WILKINSON'S PATENT BEER BOTTLES.
CROSSLEY'S AND "BISSCHOP" GAS ENGINES.

SODA WATER MACHINERY

BY

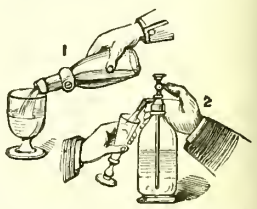
BARNETT & FOSTER,

23T FORSTON STREET, SHEPHERDESS WALK, LONDON, N.



Prize Medals—London, 1862, 1873, 1874; Paris, 1867, 1878; Vienna, Philadelphia, Cape, &c. Highest Award, Sydney, 1879-80.

Our Machines are universally adopted throughout the world for the manufacture of all kinds of Aërated Drinks, whether in bottles, syphons, or counter fountains. There are in England alone over 1,500 factories where our Machinery is in use. They are the simplest, safest, and cheapest for the purpose, and produce a highly-charged gaseous water free from metallic or foreign contamination.



All our Machines have a Gasometer, and it forms a most important necessity where purity of product is required, as in this the gas is expanded and purified; it also removes the possibility of explosion, and avoids the necessity of complication—these we consider of greater importance than the saving of a few inches of floor space.

Our valuable Book of Recipes and Instructions accompanies every Machine, and the most unskilled can at once produce Waters of the highest class.

Sole Agents for Codd's Patent Bottle, Fig. 1. Sole Manufacturer of the "London-made" Syphon Fig 2.

PATENTEES OF THE IMPROVED CORKING MACHINE FOR CHAMPAGNE BOTTLES

ILLUSTRATED CATALOGUE FORWARDED FREE.

TO BOTTLERS OF MINERAL WATERS AND AERATED DRINKS.

N. G. Wilcocks' "ECLIPSE" for 1882

UNEQUALLED AND UNRIVALLED

TURNOVER FILLING MACHINE.

£4 10s. With Recent Improvements, £4 10s.

FOR BOTTLING

CODD'S, LAMONT'S, DISC, BARRETT & ELERS',

And all other Patent internally-stoppered Bottles.

THIS MACHINE HAS EARNED A WORLD-WIDE REPUTATION.

ON COMPARISON WITH OTHERS IT IS PRE-EMINENT.

It has the most simple action	Therefore is the least likely to get out of order.
It fills and syrups all internally stoppered bottles .	Small or large, and of any shape.
It is worked with marvellous rapidity	The most ignorant person can work it at once.
It can be attached to any machine	English, French, American, or any other.
It has no ground-in cocks, valves, or plugs . . .	All its parts are simply constructed.
It fills and syrups by one motion	A boy or girl can work it.
It bottles drinks highly charged with gas	With less pressure in the cylinder.
It therefore economises gas	Its rapid action economises time.
Its simplicity economises labour	Its cheapness economises cost.

We manufacture these Machines with massive castings, cast in our own foundry, which has always had a high local reputation for the superior castings turned out.

We always have a number of these Machines in process of manufacture.

We always have one at work bottling drinks for our workpeople only.

We are always glad to show the Machines to probable customers, in any stage and in action.

We have had hundreds of testimonials from parties who have purchased them.

We have never had one returned which we have sent out for a fortnight's trial.

We receive continually more and more orders for these Machines.

The **"ECLIPSE" FILLING MACHINE** is the best and cheapest in the market. It is sound and strong in every part, and the workmanship throughout is of the highest class. It soon saves its first cost by its rapidity. It saves gas, and cannot waste the syrup. The syrup pump is certain in its action. Can be adjusted with the greatest nicety from zero to two ounces. It will not syrup a bottle twice, and cannot miss once. One motion only required to throw the pump out of gear for bottling plain Soda or non-syrup drinks.

"ECLIPSE" Filling Machine, to bolt to a Bench	£4	10	0
Handsome Cast-iron Standard, extra ... ... add.	1	0	0
Syrup Pump	3	0	0
Packed complete, as above, in extra strong, extra Iron-bound Packing Case for Export ... ... add.	0	15	0

SOLE MAKER:

J. G. WILCOCKS, SODA WATER MACHINIST, BACK STREET, BATH.

SODA WATER MACHINERY.

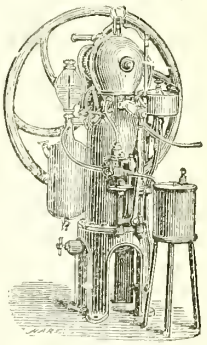
MONDOLLOT'S PATENT.

The chief features of which are the entire suppression of the Gasometer and all its disadvantages, economy of materials, and saving of labour.

GOLD MEDAL, Notwithstanding the short time this Machine has been put before the Public, over 400 Machines are already in use all over the World. PARIS, 1878.

Every Machine is fitted with two large Purifiers, in which the Gas is thoroughly cleansed from all impurities and is free to expand.

No Gasometer.
No danger of Explosion.
No skilled labour required.
No previous knowledge necessary.



No. 1 Machine, complete. Prices from £28.

The Cheapest Machine.
The Most Compact.
The Most Simple to Work.
Being Entirely Automatical.

"When explained it is simplicity itself. . . . . The fact of the economy of skilled labour and the saving of materials being the chief and most important points."—*The Mineral Water Trade Review and Guardian.*

"There is no ordinary generator or gasometer in connection with this machine, and therein lies the secret of its advantage over the ordinary English Machines."—*The Mineral Water Trade Recorder and Advocate.*

Bottle and Syphon Filling Stand, Syphons, Syrup Pump, and all necessary appliances. A New and Exhaustive Catalogue is now in the press, and will be sent, when ready, on application to

H. FAVARGER (Late MONDOLLOT & CO., Limited,) 75c TURNMILL STREET, CLERKENWELL, E.C., **LONDON.**

VALLET'S PATENT.

Fig 1.

Fig. 3.

New Stopper.

The Stoppers are made in six different sizes—Nos. 1, 2, 3, 4, 5, and 6. Nos. 4, 5, and 6 are most suitable for general use, the Bottles adapted to which having sufficient capacity in the mouth to allow a copious flow of the liquid, whilst Nos. 1, 2, and 3 are specially made for Bottles which have only a small mouth, thus retarding the flow of the liquid, and causing the evaporation of the carbonic acid gas before the Bottle can be emptied.

ROYALTY FREE.

☞ *All Communications to be addressed to*

L. VALLET, 49 Everton Road, LIVERPOOL.

Fig. 2.—THE STOPPERED AND FITTED BOTTLE

GLASS BOTTLES

OF EVERY DESCRIPTION FOR THE MINERAL WATER TRADE.

CHEMISTS, PERFUMERS, &c.

SYPHONS OF THE BEST FRENCH MANUFACTURE.

Cash Buyers should apply for Samples and Prices before placing their Orders.

J. MOUNTAIN & CO.,

83 FINSBURY PAVEMENT, LONDON, E.C.

ESTABLISHED 1853.

LAMPLOUGH'S EFFERVESCING **PYRETIC SALINE.**

HAVE IT IN YOUR HOUSES AND TRAVELS, USING NO OTHER SALINE; it gives instant relief in Headaches, Sea or Bilious Sickness, and quickly cures the worst form of Eruptive or Skin Complaints. The various diseases arising from Constipation, the Liver, or Blood Impurities, Inoculation, the results of breathing air infected with **Fevers, Measles,** or **Smallpox,** are frequently prevented and certainly cured by its use.

The sale of these Saline Salts having greatly increased during the past few years, I beg most cordially to thank those who sell and recommend the same, and also to inform intending dealers that they will find Messrs. BARCLAY, EDWARDS, MAW, NEWBERY, SANGER, SUTTON, and the Wholesale Houses generally, ready to supply their wants. This Advertisement is found needful in consequence of the trouble, cost, and inconvenience in the keeping and collection of numerous small accounts. *Note.*—The Name, Trade Mark, Labels, Wrappers, &c., are all Registered and Entered at Stationers' Hall. 113 HOLBORN HILL, LONDON, E.C.

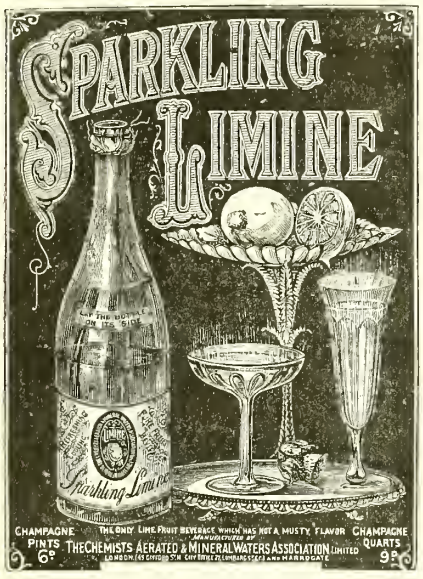
SPECIAL NOTICE.—Medical Gentlemen having fever cases, and desirous of trying the Saline, can have a single bottle at wholesale prices by sending their cards.

CHEMISTS' AERATED AND MINERAL WATERS ASSOCIATION
(LIMITED).

Manufacturers of MINERAL WATERS IN GENERAL, AND ALSO THE SPECIALITIES.

SPARKLING LIMINE.

A Delicious Lime Fruit Beverage, Free from a Musty Flavour.



Of Chemists, 5/6 and 8/6 per dozen.

Contains no Iron, no Phosphorus, but FRUIT AND VEGETABLE PRODUCTS ONLY.

Of Chemists, 5/6 and 8/6 per dozen.

SPARKLING RUBINE.

THE WATERS BEING OF FIRST QUALITY, A TRIAL IS SOLICITED.

Offices and Factories—45 Gifford Street, and 112 Pembroke Street, Caledonian Road, London; and Harrogate.

JEWSBURY & BROWN'S
MANCHESTER
MINERAL WATERS,

PURE SODA, SELTZER, POTASH, LITHIA, &c.,
LEMONADE,
GINGER ALE, AND QUININE TONIC.

Prepared and Bottled specially for Export, and warranted to keep well.

Manufactured with the utmost care and by improved machinery, these productions are recommended for **purity and excellence of quality** by many leading members of the Medical Profession, and have for many years had a preference by the public; the flavour of the **Lemonade and Ginger Ale** being procured from the **fresh Fruit and Finest Jamaica Ginger**, they may be relied upon as furnishing delicious and satisfactory beverages, either for general use or specially for invalids.

The **Soda Water** is absolutely free from any metallic impregnation, and being by improved machinery highly charged with Carbonic Acid Gas, and each bottle containing a definite and unvarying proportion of **Pure Carbonate of Soda**, J. & B. have every confidence in inviting a trial from those who have not already patronised them.

The **Seltzer, Potash, and Lithia Waters** are prepared with the utmost exactitude and the purest ingredients.

The **New Quinine Tonic** furnishes a pleasant form for the administration of a most valuable restorative, and is refreshing and agreeable.

Ginger Ale (Aromatic) of superior quality, and strongly recommended as a Non-Alcoholic and warm stimulant beverage.

N.B.—Every Bottle is protected by a distinctive Label, with Name and Trade Mark, and each Cork is branded.

Counter Bills and Analytical Reports, with Agents' Names and Addresses, supplied when requested.

JEWSBURY & BROWN, 44 Downing Street, 3 Grosvenor Street, and 113 Market Street, **MANCHESTER.**

A CERTIFICATE OF MERIT awarded by the British Sanitary Institute of Great Britain, after a deferred PRACTICAL TRIAL AND EXAMINATION, July 4th, 1879.

was awarded to Jewsbury & Brown at the Exhibition of Sanitary Appliances, at Owens College, Manchester, on the occasion of the Meeting of the British Medical Association, August, 1877.

T. & F. J. TAYLOR'S

TRADE N & P MARK.

AËRATED WATERS,

Newport Pagnel.

ESTABLISHED 1835.

SODA, POTASH, SELTZER, AËRATED (without Alkali), and LITHIA WATERS, LEMONADE AND GINGER ALE.

Each Bottle is protected by a Label bearing the Signature of the Firm.

Purity and Excellence of the Water certified by Analysis by Professor Attfield, Ph.D., F.C.S.

"ABSOLUTELY PURE."

SEE ANALYSIS. Sent post free on application.

ELLIS'S

TRADE MARK CYMRYAM BYTH

REGISTERED.

RUTHIN WATERS.

Soda, Potass, Seltzer, Lemonade, also Water without Alkali. For GOUT, Lithia Water, & Lithia & Potass Water.

CORKS BRANDED "R. ELLIS & SON, RUTHIN," and every label bears their Trade Mark. Sold everywhere, and wholesale of

R. ELLIS & SON, RUTHIN, NORTH WALES.

London Agents: W. BEST & SONS, Henrietta St., Cavendish Sq^re.

Caution

W. A. ROSS, the Original Patentee and Maker of The Celebrated Belfast Ginger Ale, cautions the Public that the "GENUINE" can only be had at

Ross's Royal Ginger Ale AND *Aërated Water Works Belfast.*

Name on Cork, Capsule, and Label Registered.

EXPORT ORDERS HAVE SPECIAL ATTENTION

BINGLEY'S

AERATED WATERS. NORTHAMPTON.

ANALYSED

SODA WATER.
SELTZER.
POTASH.
LEMONADE.
LITHIA, &c.

MANUFACTURED BY

JOHN BINGLEY, Pharmaceutical Chemist,

NORTHAMPTON.

A copy of Professor Attfield's Report will be forwarded by post on application.

W. J. BUSH & CO.,

Distillers and Importers of

Essential Oils & Fruit Essences,

SPECIALITIES FOR AERATED WATER AND CORDIAL MANUFACTURERS,

ESSENCE LEMON,

EXTRA SUPER QUALITY,

The only pure Essence imported, made at our Works at Sicily.

ESSENCE GINGER ALE,

For Winter Drinks.

TONIC ESSENCE,

FOR BITTER WATER.

Soluble Essence Lemon.

SOLUBLE ESSENCE GINGER.

SOLUBLE ESSENCE OF PEPPERMINT.

BEWARE OF SPURIOUS IMITATIONS.

W. J. B. & Co. caution the Trade against the so-called Soluble Essences now so frequently offered for sale, which are nothing more than mere Tinctures; and although offered at lower prices, cost 5 or 6 times as much in use, whilst imparting a strong medicated flavour. W. J. B. & Co. further beg to inform their friends that Aerated Drinks as Pale Ale, Horehound Beer, &c.—made from their Soluble Essences are exempt from Excise regulations.

NONE OTHERS ARE GENUINE.

CAUTION.

W. J. BUSH & CO. regret having to caution the trade against spurious imitations of this article, most of which being mere rubbish.

GUM EXTRACT

(French Cream),

PROTECTED BY ROYAL LETTERS PATENT,

For producing a Permanent Head of Creamy Richness on Ginger Beer, Ginger Ale, Lemonade, and other Aërated Beverages; also on Beers, Ciders, Wines, &c.

2s. 6d. per lb.

TO MAKERS AND VENDORS OF EFFERVESCING DRINKS, AND TO THE PUBLIC GENERALLY.

IN the High Court of Justice—Chancery Division—on Thursday, June 10, 1880, before Vice-Chancellor Sir C. Hall, an application was made in the action of Bush *v.* Young to commit the defendant to prison for disobeying an injunction whereby he had been restrained from selling, imparting, or publishing a recipe, which is an infringement of a certain patent known as "Gum Extract," the property of the plaintiff, which is used in the mineral water trade for giving a creamy head or foam to ginger beer and other beverages; the defendant having published and sold a recipe for the preparation of the same compound under the name of "Compound Fluid of Saphacanium," to be used for the same purpose. The defendant resisted on the ground that the bark used by him was not the same as that used by the plaintiff, being known as "Panama Bark."

The plaintiff, however, proved that this was in fact the same, and the Court granted the injunction. The defendant also threatened to publish the recipe unless it were bought up by the plaintiff.

His lordship made an order that in default of defendant paying the costs, he should stand committed to prison.

All persons infringing the above patent, either by selling or using, will be proceeded against, and those who give information of such infringement will be liberally rewarded.

W. J. BUSH & CO.,

20-23 Artillery Lane, Bishopsgate, London, E.

HONOURABLE MENTION,

International Food Exhibition, Agricultural Hall, London, October, 1880.

HAY'S

SOLUBLE ESSENCE OF JAMAICA GINGER

(Guaranteed Pure and Free from Capsicum).

Trade Price, 5s. per lb.; 12 lbs. and upwards, 4s. 6d.

Highly adapted for the manufacture of *Transparent Aërated Waters*, and for all *Dietetic, Medicinal*, and *Pharmaceutical* purposes.

Medical and other Opinions on HAY'S Soluble Essence.

"Singularly free from resin."—*The Lancet.*

"It should entirely supersede the officinal preparation of the British Pharmacopœia."—*Medical Press.*

"It is a pure, elegant preparation, and is free from resinous matter."—*Medical Times and Gazette.*

"It is a pharmaceutical desideratum."—*The Chemist and Druggist.*

Medical and other Opinions on the Ginger Beer made from HAY'S Soluble Essence.

"An excellent effervescing drink."—*The Lancet.*

"Preferable to some wines we have tasted under the name of champagne."—*Medical Press.*

"Clear and transparent, and very pleasing to the palate."—*Medical Times and Gazette.*

"Has the purest Jamaica Ginger aroma, distinguishable as soon as poured out. It is a beverage fit for any gentleman's table, and ought to attain great popularity."—*The Chemist and Druggist.*

THE COMPOUND ESSENCE

(Guaranteed Pure and Free from Capsicum).

This Essence, which is an addition of VANILLA, LEMON, and OTHER FLAVOURS to the above, is strongly recommended for the manufacture of **Ginger Beer, Wines, &c.**, to which it imparts with the **Ginger** a **Peculiarly Fine Fruity Flavour** and **Aroma.**

Trade Price, 5s. 6d. per lb.; 12 lbs. and upwards, 5s.

THE COMPOUND FORTIFIED ESSENCE

Specially adapted for the Manufacture of the FINEST

GINGER ALE.

This Essence is strongly recommended for the manufacture of **Ginger Ale** and **Ginger Beer,** to which it imparts the **fullest amount** of **Pungency** with the **Fine Ginger Aroma** and **Fruity Flavours** of the **last-mentioned Essence.**

Trade Price, 5s 6d. per lb.; 12 lbs. and upwards, 5s.

HAY'S GINGER ALE ESSENCE,

HIGHLY CONCENTRATED.

This Essence is a complete Bouquet of the finest Ginger, Lemon, and other flavours, in a highly concentrated state.

Ginger Beer and **Ginger Ale** made with **this Essence** will possess an amount of **Aroma, Flavour,** and **Quality** that have hitherto been without precedent, and that will be sure to command a **large sale.**

THE COST IN MANUFACTURE IS ABOUT ONE FARTHING PER DOZEN BOTTLES.

Trade Price, 9s. per lb.; 12 lbs. and upwards, 8s. 6d.

GINGER ALE EXTRACT

SUPPLIES PUNGENCY, AROMA, COLOURING, AND FLAVOURING.

This Extract is strongly recommended for the manufacture of **Ginger Ale,** to which it imparts an unusually **Fine Flavour** and **Great Brilliancy,** at a cost of a little under 1*d.* per dozen bottles.

Trade Price, 4s. 6d. per lb.; 12 lbs. and upwards, 4s.

PREPARED BY

W. HAY, Manufacturing Chemist, 4 REGENT'S TERRACE, HULL.

Agents—Messrs. HEARON, SQUIRE & FRANCIS, Wholesale Druggists,
5 COLEMAN STREET, LONDON, E.C.

W. HAY *CAUTIONS THE TRADE* **against the use of those spurious so-called SOLUBLE ESSENCES which, besides having NO GINGER AROMA, are FLAVOURLESS, RANK, and DISAGREEABLE, and are little more than TINCTURES OF CAPSICUM.**

Hunyadi János

CAUTION.—Circumstances which have come to the knowledge of Andreas Saxlehner, Buda Pest, Sole Proprietor of the Hunyadi János Spring, compel him to warn the British Public against SPURIOUS IMITATIONS. To secure genuineness, purchasers should see that every bottle has on the label the name of "THE APOLLINARIS COMPANY (LIMITED), London."

AWARDED THE CERTIFICATE OF MERIT AT THE SANITARY EXHIBITION OF GREAT BRITAIN.

A SIX DOZEN CASE, which may be assorted, to any Railway Station for 36s., returned Empty allowed 18s.

A Liberal Discount to the Trade, who should send for Sample Case before ordering elsewhere.

Telegram from Melbourne Exhibition, May 7, 1881.

To Messrs. Samuel Gulliver & Co., Aylesbury.

"TWO FIRST-CLASS AWARDS for your Exhibit, being the Highest Honours obtainable for Mineral Waters. Special reference being made to the Good Quality."

Also Two Second Awards and Honourable Mention—Five Honours in all.

Terms, 5/- per dozen in quarterly account, 5 per cent. discount on cash with order.

SHELFANGER NR. DISS

Extra, 6/- per dozen, half is to chemist. Circulars and Showcards free.

NOTICE.

TO CHEMISTS AND DRUGGISTS.

THE SHELFANGER.—This delightful effervescent Antacid and Tonic Table Water, *after March 1st*, 1882, can only be obtained *direct from the Spring*, in Cases of 3 dozen each, half-pints.

PROPRIETOR—
"SHELFANGER" SPRING, NEAR DISS.

Discovered by a Member of the Royal College of Surgeons of England.

This natural Antacid and Tonic Mineral Water claims to be a most valuable medicinal beverage, in that it preserves the proper proportion of the Carbonates of *Magnesia* and *Iron*, which can neither relax nor bind the system, exerting only the tonic and invigorating virtue of Iron and corrective property of Magnesia. The proportion of these most important ingredients is such that it may be taken as ordinary *Table Water*, being, in short, a simple, effective safe, and agreeable *Alkaline Chalybeate*. It is particularly recommended by some eminent members of the medical profession for the *Gouty, Diathesis, Anæmia, Debility*, and *Weak Digestion*, and when a constitution requires *Tonicity* and *Vigour*. *Epilepsy* and *Hemiplegia* have been materially benefited under its dietetic use, showing it to be of great value in imparting tone to the *nervous system*. The *Water*, aërated, may be procured from the above Mineral Water Importers, and on recommendation of medical men *Invalids* of the upper class are received at the Spring where the climate is invigorating, and consumption unknown; and in a county where "more than 80 persons have outlived their 100th year within a period of less than 40 years."—*White's History of Norfolk.*

Extract from Analytical Report by Professor ATTFIELD, Ph.D., F.R.S., F.I.C., F.C.S., Professor of Practical Chemistry to the Pharmaceutical Society of Great Britain.

"The 'Shelfanger' is a *valuable Magnesian Antacid* and mild *Chalybeate Water*."—JOHN ATTFIELD.

From THOS. COLE, Esq., M.D., M.R.C.P. Lond., Physician to the Royal United Hospital, Bath.

"The Shelfanger Mineral Water is Antacid and Chalybeate. I would therefore strongly recommend it in many *Dyspeptic conditions, Suppressed Gout*, and *Anæmia*."

From CHAS. WHITBY, Esq., M.B., Leamington.

"I am much inclined to believe that the Shelfanger Mineral Water will ere long become a popular beverage with *Gouty, Debilitated, and Anæmic Invalids*."

From FREDK. THORNE, Esq., M.R.C.S., &c.

"I have tried the Shelfanger Mineral Water, and find that it *possesses all the characteristics claimed for it*, and it is, moreover, *very agreeable*, which cannot be said of most Chalybeates."

PROPRIETOR—
THE "SHELFANGER" MINERAL SPRING, NR. DISS.

FOR SUMMER.

RASPBERRY
STRAWBERRY
LIME FRUIT
BLACK CURRANT
LEMON, ORANGE
JARGONELLE PEAR
PINE APPLE

In Bottles, 1/9,
Half Bottles, 1/-

FOR WINTER.

AROMATIC
BLACK CURRANT
GINGERETTE
GINGER LEMON
PEPPERMINT
CLOVE
WINTER PUNCH
LIME FRUIT
CORDIAL

In Bottles, 1/9,
Half Bottles, 1/-

By the simple addition of two table-spoonfuls of these Syrups to a tumblerful of hot or cold water, most wholesome and refreshing drinks are immediately prepared, as pleasant to the taste as they are invigorating to the system. For Gazogenes and the Syphon Soda Water Bottles they are admirably adapted. Put into a tumbler a large spoonful of any of the Syrups, and fill it up with the Gaseous Water. Largely used for flavouring Puddings, Jellies, Custards, and Blanc-Mange, and are specially suitable for the Sick Room, Pic-nics, Weddings, Christmas and Birthday Parties, &c., &c.

Sole Manufacturer—W. BECKETT, Heywood, MANCHESTER.

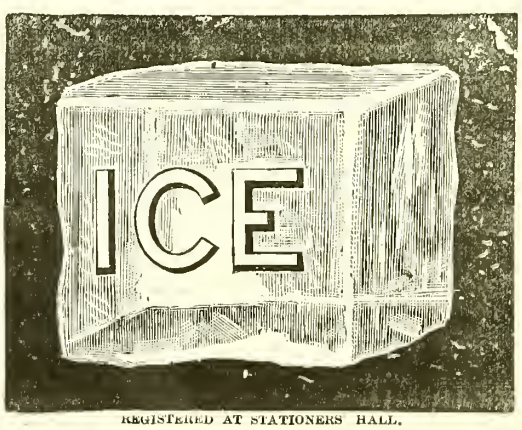
Wholesale Agents—Barclay & Sons; Sanger & Sons; Edwards & Sons; Sutton & Co., &c., &c.

FOREIGN
Mineral Waters and Zoedone.

FREDERICKSHALL (5 Cases, 6*d.* per Case less), 24/6 Case, 30 bot.; 34/ Case, 60 ½-bot.
APOLLINARIS (10 Hprs., 1/- and 1/6 less), 24/ Case, 50 bot.; 36/6 Hpr., 100 ½-bot. Hampers free.
HUNYADI JANOS (10 Cases, 3/- and 5/- less), 30/- Case, 25 bts.; 50/- Case, 50 ½-bts.

SELTZER	...	...	...	11/- Hpr., 25 bts.
"	...	...	...	15/- Hpr., 50 ½-bts.
PULLNA	...	...	...	18/- Case, 20 bts.
"	...	...	...	30/- Case, 50 ½-bts.
VICHY...	...	...	...	31/- " 50 bts.
"	...	...	...	27/- " 50 ½-bts.
CARLSBAD ...	...	...	...	37/- " 50 bts.
KISSENGEN	...	...	...	42/6 " 50 "
SCHWALLBACH ...	...	...	...	27/6 " 50 "
HOMBURG ...	...	...	...	37/6 " 50 "
WILDUNGEN	...	...	...	40/- " 50 "

CARLSBAD SALTS, ½-Bots., 20/- per doz.; ½-Bots., 40/- per doz.; Bot., 80/- per doz.
ZOEDONE, 5/- per doz., 6-doz. Cases (if 5 Cases, 2*d.*, 10 Cases, 3*d.*, 20 Cases, 4*d.* per doz. less).



REGISTERED AT STATIONERS HALL.

Norway Block Ice.

ORIGINAL BLOCKS	1/9 per cwt.
1 cwt. to 2 cwts.	2/6 "
½ cwt. to 1 cwt.	¼*d.* per lb.

Packing and Mats for Original Blocks free 3*d.* each allowed for Mats if returned.
Present Season's Ice specially fine and extra thick. Low quotations given for quantities taken from vessels while discharging.

PRINTED DIRECTIONS for STORING ICE sent free on application.

W. B. HARRISON,
IMPORTER OF ICE AND MINERAL WATERS,
6 Bridge Street, Sunderland.

PHOSPHODONE

NON-ALCOHOLIC.

A carefully-prepared beverage. . . . Pure, wholesome, and exhilarating. . . . The mineral matter held in solution is chiefly in the form of hypophosphites, of which each bottle contains about one grain."—*Extract from Analysis.*

PHOSPHODONE.

"Is undoubtedly one of the most desirable beverages introduced. The water, which forms the primary constituent, is exceptionally pure, and the scientific analysis is entirely satisfactory. The increasing popularity of Phosphodone testifies to the merits of this refreshing and invigorating drink, which has already developed into a widespread reputation in the Colonies and foreign parts."—*British Trade Journal.*

PHOSPHODONE.

"A much-prized preparation among consumers of non-alcoholic drinks. All Mr. Skinner's goods may be catalogued as refreshing, wholesome, and palatable . . . above the ordinary run of aërated waters."—*European Mail.*

PHOSPHODONE.

"Samples are seen of the materials employed . . . . and the examination of these substances assists one in forming a high opinion of the articles produced, and of the certainty that purity and wholesomeness are fully maintained in every department of the manufacture."—*Sanitary Engineer.*

PHOSPHODONE.

The Medical Profession and other correspondents may be furnished with the Alkaline Strength of the Mineral Waters, and other important information, as well as detailed Analyses, Medical Commendation, Press Notices, Testimonials, and Scientific Authorities. See Analyses by Professors Wanklyn, Heisch, &c.

WHOLESALE AGENTS—

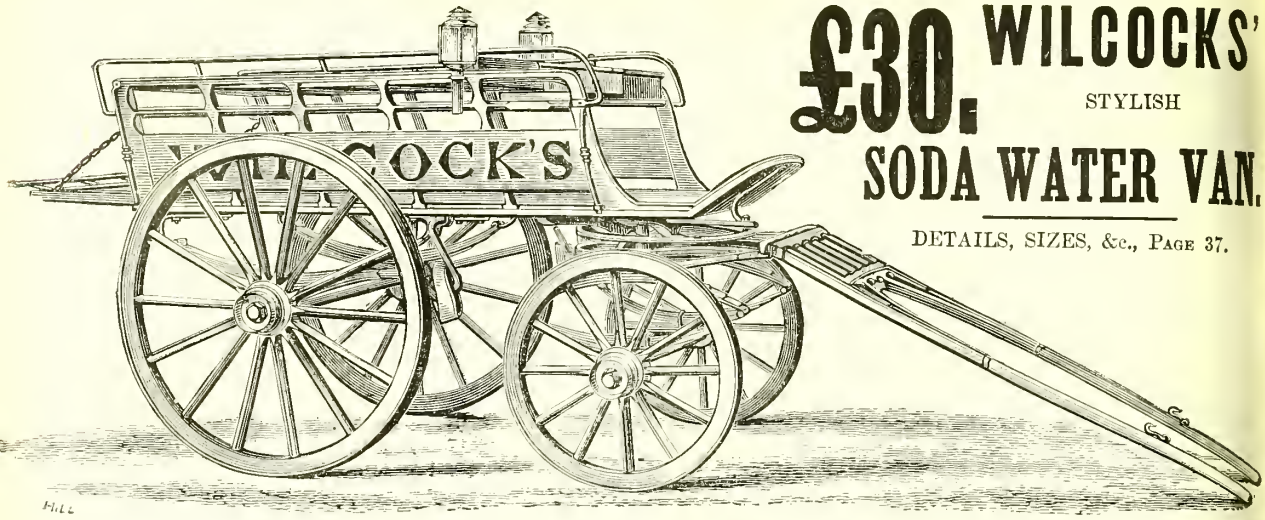
Barclay & Sons, 95 Farringdon Street.
Best & Sons, 22 Henrietta Street.
Edwards & Sons, 157 Queen Victoria St.
Evans, Gadd & Co., Exeter.
Hovenden & Sons.
Ingram & Royle, 119 Queen Victoria St.
" " Bath Bridge, Bristol.
Lynch & Co., Aldersgate Street.
Newbery & Sons, King Edward Street.
Sanger & Sons, 150 Oxford Street.
Sutton & Co., Bow Churchyard.
W. Tullock & Sons, Bury Street.

Retailed at 5/6 per dozen, Champagne Pints (bottles included).

Chemists may obtain advantageous terms from the Wholesale Agents.

PROPRIETOR: G. H. SKINNER, ST. KERRIAN WORKS, EXETER.

PRIZE MEDAL awarded, International Food Exhibition, 1881; and Highest Award of Merit, Sanitary Institute of Great Britain, 1880; for Skinners' Aerated Waters.



£30. WILCOCKS' STYLISH SODA WATER VAN.

DETAILS, SIZES, &c., PAGE 37.

JOHN MACKAY & CO.,

CANNING STREET, EDINBURGH,

MANUFACTURERS OF

GRANULAR EFFERVESCENT CITRATE OF MAGNESIA

AND ALL OTHER GRANULAR PREPARATIONS.

SAMPLES AND QUOTATIONS FORWARDED ON APPLICATION.

SPECIAL TERMS TO LARGE BUYERS.

BOURNE WATER.

THE PUREST IN ENGLAND.

R. M. MILLS & CO.,

BOURNE, LINCOLNSHIRE,

Manufacture all kinds of Aerated Waters from this celebrated Artesian Spring.

Dr. ANDERSON'S Tissue Phosphate Tonic Water, an Aërated Tonic Beverage containing all the Mineral Aliments of Nutrition (*no* Iron), and assisting Digestion in a most marvellous degree.

SOLD BY THEIR AGENTS THROUGHOUT ENGLAND. PRICE, WITH DESCRIPTIVE PAMPHLETS, UPON APPLICATION.

SPECIAL AGENTS IN LONDON—

Messrs. INGRAM & ROYLE, Victoria Street, and Messrs. HARDY & Co., 42 Fenchurch Street.

INDEX TO ADVERTISEMENTS.

See Pages 21 & 22

Prize Medals—

YORK,	SYDNEY,	MELBOURNE,	ADELAIDE,
1879.	1879.	1880.	1881.

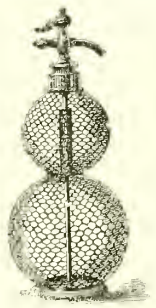
THE

BRITISH SYPHON MANUFACTORY,

EUGSTER & KOERTGEN, Preprietors,

2 Gresham Buildings, Basinghall Street,

WORKS: LAMBETH, S.E. LONDON, E.C.



SELTZOGENES.

3 pint size, wire, 13*s.*; cane, 13*s.* 6*d.*
5 „ „ „ 18*s.*; „ 19*s.*
8 „ „ „ 30*s.*; „ —
Silverplated top or wire, 5*s.* extra.
Drop Cups, Measures, &c.
LIBERAL DISCOUNT FOR QUANTITIES.

IMPORTANT.

In ordering our Seltzogenes through Agents distinctly state that you require the "Lion and Shield" Brand, and see that you get it, as often others inferior are substituted. All our apparatuses are stamped thus: *GUARANTEED* *PERFECT*, and of first-class workmanship.

THE BRITISH SYPHON MANUFACTORY LONDON

SYPHONS.

Short Levers, 22 6; Long Levers, 24/- per dozen net.

WHITE, BLUE, AMBER, OR GREEN BOTTLES.
CYLINDRICAL OR OVAL SHAPED.

SILVERPLATED TOPS FROM 8*s.* PER DOZEN EXTRA.
Name stamped on metal tops free for one gross.

Name and Trade Mark engraved on the bottles by the acid process from 1½*d.* to 2½*d.* each extra.

Soda Water Machinery.

NEW AND IMPROVED CONTINUOUS APPARATUS
With one or two Pumps.
GENERATORS, WASHING VESSELS, GASOMETERS, SYPHON FILLING AND SYRUP DOSING MACHINES.

EACH SELTZOGENE AND SYPHON THOROUGHLY TESTED BEFORE SENT OUT. ALL METAL WARRANTED FREE FROM LEAD.

HAY'S
GINGER CHAMPAGNE

CAN BE OBTAINED FROM THE SOLE AGENTS,

INGRAM & ROYLE, 119 Queen Victoria Street, LONDON, E.C.,

AND BATH BRIDGE, BRISTOL.

Price, in Half Champagne Bottles, 5s. 6d. per dozen.

This SPARKLING, EXHILARATING, and REFRESHING DRINK, while being far more agreeable in bouquet and flavour than the FINEST CHAMPAGNE WINE, is, at the same time, unlike it, FREE from ALCOHOL.

It is strongly recommended both for Juveniles and Adults, &c., as the most Wholesome Stimulating Beverage that has hitherto been introduced, and should be in every household during all seasons of the year.

Samaritan Free Hospital, Lower Seymour Street, Portman Square, London, W.

Dear Sir,—I have tried your Ginger Champagne, which I find to be excellent, and I look upon it as a step in the right direction toward meeting a long-felt want. Our Senior Physician, Dr. Henry Savage, has also tried it, and is much pleased with it. We thought long ago to have had such a beverage, and I believe that a great deal of drinking would thus have been prevented. I wish your effort much success.

I am, dear Sir, yours faithfully,
GEORGE SCUDAMORE, Secretary.
52 Montague Square, London, W.

Sir,—I am able to state that your Ginger Champagne is excellent and most refreshing. It will, I trust, supersede those cheap alcoholic drinks that meet us at many inns and railway stations, and which are often the only drinks to be had. In providing this beverage you have greatly assisted the cause of temperance, and I shall recommend it largely.
C. H. F. ROUTH, M.D.

19 Oxford Terrace, Hyde Park, London, W.

I have tried Hay's Ginger Champagne and like it extremely. I consider it is infinitely superior to the numerous non-alcoholic beverages now so largely advertised. It is an invigorating and refreshing tonic beverage, and, as such, I can confidently recommend it.
W. DOMETT STONE, M.D., Phys. Finsbury Dispensary.

An excellent and most agreeable beverage.—*The Lancet.*

Made by Mr. Hay, of Hull, with his well-known SOLUBLE ESSENCE OF JAMAICA GINGER, takes rank as a PURE, WHOLESOME, STIMULATING, and NON-ALCOHOLIC beverage.—*British Medical Journal.*

One of the most delicate and wholesome drinks in the market.—*Medical Press.*

This is a beverage which the practitioner can safely recommend.—*Medical Times and Gazette.*

Mr. Hay, of Hull, deserves abundant success with his Ginger Champagne. It is an exhilarating, wholesome, and very agreeable beverage.—*The Chemist and Druggist.*

Sole Manufacturer, W. HAY, Chemist, &c., 4 Regent's Terrace, HULL.

M. A. CRAVEN & SON,

WHOLESALE AND EXPORT CONFECTIONERS,

MAKERS OF

Medicated Lozenges, Refined Liquorice, Jujubes, and every description of Confectionery,

IMPORTERS AND MANUFACTURERS OF LEMON, ORANGE, AND CITRON PEELS.

ARBOR CONFECTIONERY WORKS,

YORK.

Lozenges of all descriptions made from Customers' private formulæ (or ingredients), and stamped with any name or device.

SPECIALITIES—Cough, Peppermint, Rose, Musk, Boquet, Cachou, and all kinds of Medicated Lozenges.

ESTABLISHED 1843 PRICE LIST ON APPLICATION.

HENRY WIGAN & CO.'S
ISINGLASS.

IMPORTERS AND MANUFACTURERS OF

Brewers' and Druggists'

ISINGLASS.

HENRY WIGAN & CO.,

SWAN LANE, UPPER THAMES ST., LONDON.

RANDALL'S BLACK CURRANT LOZENGES.

	Net Cash. s. d.	To Acct. s. d.
Plain Black Currant, old square	2 6	2 8
,, ,, ,, rough oval	2 6	2 8
Black Currant and Ipecacuanha	2 6	2 8
Black Currant and Tannin..	3 0	3 3
Black Currant Voice (warm astringent) ..	3 0	3 3
Black Currant Cough Lozenges*	3 6	3 10

(*Ipecac. and Morph., strength as "B. P.")

In Bottles, 1 lb., 2 lbs., 4 lbs., and 7 lbs. For Exportation, in soldered tins, of any size. From EDWARDS, London; through any Wholesale House; and from the Manufacturers,

RANDALL & SON, Southampton,

Who will forward Samples by post on application.

Also, BROWN COUGH LOZENGES, 2s., 2s. 2d.; 7 lbs. stamped with name free, and MUSK LOZENGES (*Special*) 2s. 6d., 2s. 8d.

N.B.—Medical Lozenges of every kind,

Including those of the Pharmacopœia of the Hospital or Diseases of the Throat, London.

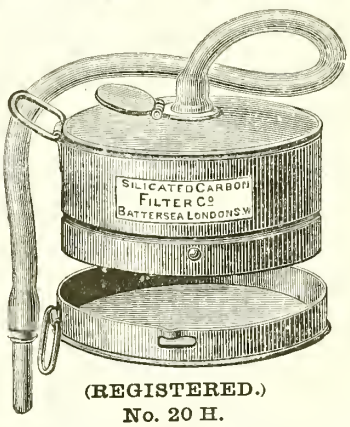
NOVELTY.

SILICATED CARBON POCKET FILTER,

IN GERMAN SILVER, NICKEL-PLATED.

Retailed at FIVE SHILLINGS each.

Designed by
MAJOR FRASER,
of the
ROYAL ENGINEERS,
especially
for Officers' Kits.
Weighs only 8 ounces.



(REGISTERED.)
No. 20 H.

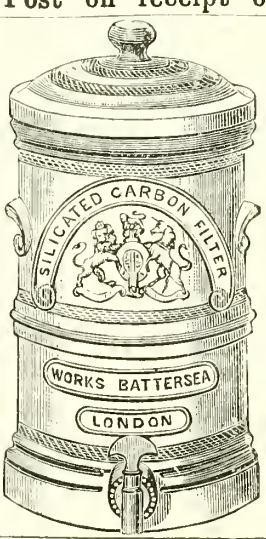
It has been approved
by the
Authorities at the
Horse Guards, and has
been largely
used in the Afghan and
Zulu Expeditions.

Sample sent free by Post on receipt of FOUR SHILLINGS.

DOMESTIC FILTER, NO. 27.

Made in cream-coloured Stoneware, fitted with the Silicated Carbon Media, complete with Cover and Silver-plated Tap.

All sizes of this pattern can now be had with Ice Compartment, which renders this Filter the most perfect of Refrigerators.



PRICES.

			With Ice Compartment.
No. O, capacity ½ gallon		10*s.* 6d.	
No. A, „ 1 „	14*s.* 6*d.* ...		17*s.* 6*d.*
No. B, „ 2 „	21*s.* 0*d.* ...		25*s.* 0*d.*
No. C, „ 4 „	32*s.* 0*d.* ...		36*s.* 0*d.*
No. D, „ 6 „	42*s.* 0*d.* ...		48*s.* 0*d.*
No. E, „ 8 „	52*s.* 0*d.* ...		60*s.* 0*d.*
No. F, „ 12 „	70*s.* 0*d.* ...		80*s.* 0*d.*

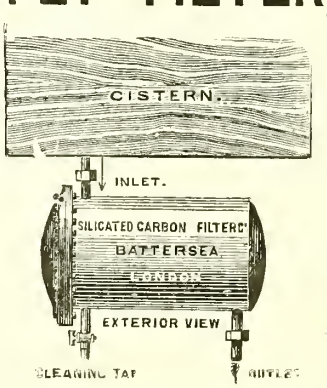
MAIN SUPPLY FILTER, NO. 40.

SPECIALLY ADAPTED FOR
Mansions, Schools, Hospitals, Public Institutions, Breweries, Distilleries, Soda Water Manufactories, Dye Works,
And all other Establishments where large quantities of

PURE WATER

Are required.

The ordinary Sizes kept in Stock are as follows :—
A, ½-inch or ¾-inch pipe .. .. .. £6 6*s.*
B 1-inch pipe .. .. £9 9*s.*
C, 1¼-inch, 1½-inch pipe .. .. .. £15 15*s.*
D, 2-inch pipe .. .. £26 5*s.*



This Filter is extremely simple in construction, and can be either connected with a Cistern or attached to the Main Service Pipe. It requires no attention beyond an occasional opening of the Cleansing Tap, and will deliver a supply of purified water at a rate of 50 to 1,000 gallons per hour, according to size.

Special Contracts entered into for Large Works, Institutions, &c., &c.,

FOR PURIFYING THE WHOLE OF THE WATER SUPPLY OF A BUILDING BEFORE USE.

Ensuring Rapid and Perfect Filtration, at either High or Low Pressure.

SILICATED CARBON FILTER CO., CHURCH ROAD, BATTERSEA, LONDON.

SILICATED CARBON FILTERS.

SYPHON FILTERS FOR TRAVELLERS.

No. 20.

By means of these Filters pure and perfectly wholesome water may be drunk from any pond or stream by simply immersing the Filter therein and drawing the water through the tube by suction.

Each of these portable Filters may be used as a Syphon by placing it in a vessel of water, then drawing the water by the mouth, and allowing the flexible tube to hang over the side below the Filter. When once set in operation their action is continuous.

They are readily cleaned from sedimentary matter by merely blowing through the tube, and brushing the surface of the filtering medium.

		s.	d.
A.—Pocket Filter, 2½ inches diameter, in porcelain, with glass mouthpiece, in decorated metal box		2	6
B.—Do, 3½ inches diameter, in best stoneware		5	0
Do, „ „ with silver-plated tap		7	0
C.—Elegant's, 5 inches diameter, with silver-plated tap		12	0
G.—*Pocket Filter, for carrying over shoulder, as supplied to the forces in Abyssinia and in Zululand, and to the Ashantee expedition*		3	6
H.—*Do, nickel-plated, designed by Major Fraser, R.E., and specially recommended by the Horse Guards for Officers' kits*		5	0

TABLE FILTER, NO. 24.

Made of stout glass, in 1, 2, and 3 pint sizes, the filtering medium being securely fitted into the bell-funnel, so that it is not liable to become loose, or to allow unfiltered water to pass. This Filter is peculiarly suited for the Bedroom and for Table use, affording a ready and simple means of obtaining at any time freshly-purified water.

PRICES.

O, 2s. 6d.; A, 4s.; B, 5s. 6d.
Engraved Vine Pattern—O, 3s. 6d.; A, 5s. 6d.; B, 7s. 6d.

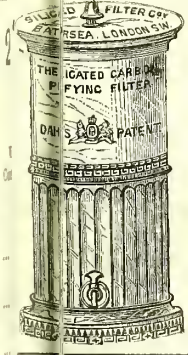
POROUS TERRA COTTA FILTER, NO. 29

Shape of this Filter as Fig. No. 24.

O, 2s. 6d.; A, 4s.; B, 5s. 6d.

SILICATED CARBON BLOCKS.

2 in., 1s. 6d.; 2¼ in., 2s. 6d.; 2¾ in., 3s.; 3½ in., 4s.; 4¾ in., 5s. 6d. ea.
SPECIAL QUOTATIONS FOR QUANTITIES.



DINING-ROOM FILTER, No. 22.

MADE IN MARBLED CHINA.

Size A holds about two gallons; size B, five gallons.

PRICES.

A	35s.
B	80s.
A, with Ice Compartment.. (New Patent.)	42s.
B, with Ice Compartment.. (New Patent.)	100s.

The large size (B) *is specially adapted for Hotels, Refreshment Rooms, Luncheon Bars, &c.*

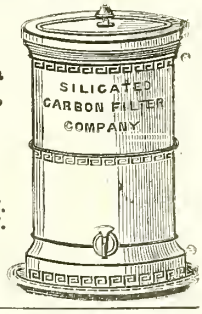
REFRIGERATOR FILTER, NO. 25.

Made in Porous Terra-Cotta Ware,

Which acts with remarkable power as a cooler, and renders this Filter invaluable, especially in Tropical Climates,

AFFORDING A

COOL DRAUGHT OF PURE WATER.

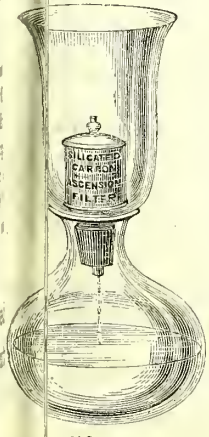


Price, with Silver-plated Tap .. .. .. 31s. 6d.
Ditto, ditto, with Ice Compartment.. .. 42s. 0d.
Capacity Two Gallons.

Specially adapted for Tropical Climates.

SILICATED CARBON (Regd.) ASCENSION FILTERS.

The most efficient known Filter



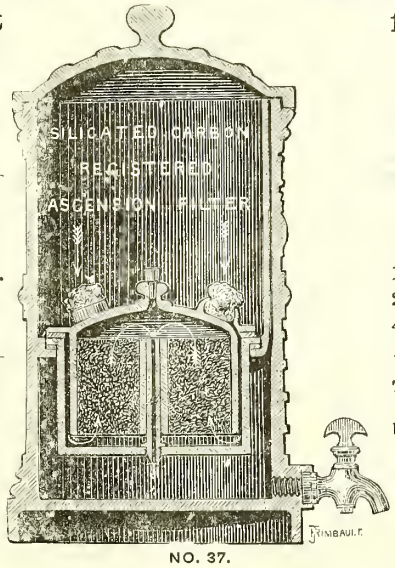
NO. 38.

PRICES:

No. 38.

1 Pint, 2/6 ea.
2 „ 4/-
3 „ 5/6

The Water passes upwards through the Silicated Carbon in the direction shown by the Arrows in the Drawings.



NO. 37.

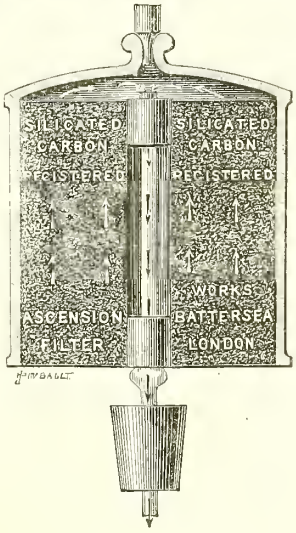
for Table and Domestic Use.

PRICES:

No. 37.

1 Gal., 18/- ea.
2 „ 26/-
4 „ 38/-

The inner blocks being movable, by attaching an indiarubber tube they can be converted into Pocket or Travelling Filters.



SECTION OF NO. 38.

WRITE FOR FULL LISTS TO THE

SILICATED CARBON FILTER CO., CHURCH ROAD, BATTERSEA, LONDON.

LLOYD'S "UNIVERSAL" FOOD

(Patent Cooked Malted Farinaceous),

THE NEW FOOD

FOR INFANTS, CHILDREN, AND ADULTS, BOTH IN HEALTH AND SICKNESS:

REQUIRES NEITHER BOILING NOR STRAINING.

From the *British Medical Journal*, June 25, 1881:—"This Food has, we find on trial, many recommendations: it is easily digested, and requires no cooking, needing only to be mixed with boiling water or milk. It is highly nutritious, very palatable, and has the merit of being cheap. It makes an excellent supper-dish, and a delicate custard with fruit. It has more nutrition than rice, sago, or tapioca, and makes excellent pudding. As an article of ordinary diet, it is applicable for general use as well as for the special use of invalids and children, for whom it may be made to replace, and often very advantageously, bread and milk and various forms of porridge. It is not artificially sweetened, and is a very excellent food, skilfully devised and well prepared."

This Food consists of the most nutritious and finest-selected cereal grains and pulse, combined with the active constituents of pure fresh malt meal, in such proportions as to render the mixture as nearly as possible chemically identical with the constituents of the human body itself. It is therefore valuable for everyday use, both in health and sickness, and for every condition of life; alike suited to the youngest child, the most robust adult, and the weakest invalid. Being **thoroughly cooked**, it is quickly and easily made; and being palatable, it is attractive, instead of, as so many foods are, repulsive. It is invaluable in all cases of weak digestion, confirmed indigestion, and constipation.

EXCELLENT for Breakfast.
UNSURPASSED for Supper.
DELICIOUS as Baked Pudding.

NOURISHING as Custard, with Stewed Fruit of all kinds.
INFANTS thrive Splendidly on it.

CHILDREN grow Strong on it.
ADULTS keep Well on it.
INVALIDS recover on it.

Analytical Report by Professor ATTFIELD, F.R.S., &c., Professor of Practical Chemistry to the Pharmaceutical Society of Great Britain, Dec. 16th, 1880.

"I have made a chemical analysis and microscopical examination of Lloyd's 'Universal' Food, a well-mixed and prepared meal. I find it to be a *true food*, rich in all the elements necessary to the formation of flesh, fat, bone, and muscle, and therefore greatly superior to mere starchy 'foods.' Its elements are in a proper form, in a perfectly cooked form, and in natural proportions. The phosphates present equal fully two per cent. of bone phosphate. The nitrogenous or flesh-forming matter amounts to as much as fifteen per cent. (Signed) JOHN ATTFIELD."

In Tins, at 1s., 2s., 5s., and 10s. each, less usual trade discount, of the Manufacturers,

J. & C. LLOYD & CO., Verulam Street, Gray's Inn Road, LONDON, E.C.

NESTLE'S MILK FOOD.

THE

"PERFECT FOOD FOR INFANTS."

NESTLE'S MILK FOOD is prepared at Vevey, Switzerland, from the pure milk of Alpine fed cows, the finest wheaten flour and sugar, combined in exact proportions to imitate closely the natural food for infants. It is thoroughly cooked, and reduced to a fine powder, perfectly soluble in water, requires only the simple addition of water to prepare it for use—in this respect having the advantage of all other foods.

NESTLE'S MILK FOOD is highly recommended by the best medical authorities in all parts of the globe as a perfect diet. Nestle's is the original and genuine Milk Food or Powder. The extensive demand for this Food, its well-known superiority and universal recognition by the medical profession, has produced the inevitable imitations. The Trade and the Public are hereby cautioned. Nestle's Milk Food has stood the test of years. Take no other under any pretence whatever.

NESTLE'S MILK FOOD is put up in Tins, packed in lined cases when ordered specially for the Export Trade. Is highly concentrated, and in perfectly dry state. Will keep good in any climate.

For exportation the Food is a very desirable article, and is much sought after among people of all nationalities in all parts of the globe. Its advantage as an article for export consists in

Its uniform quality. Its purity. The simplicity of its preparation for use.
Its freshness in warm climates, where cow's milk soon becomes tainted.

Foreign and Colonial Importers should obtain their supplies through any Wholesale Firm in Great Britain, or Shipping Agent, thus ensuring fresh stock and lowest prices.

LONDON DEPOT: 9 SNOW HILL, E.C.

NOTICE!! NOTICE!!!

TO ENTERPRISING CHEMISTS.

ŒTTLI'S SWISS MILK FOOD

FOR

Children & Invalids.

"THE MOTHER BRAND"

ŒTTLI'S SWISS MILK FOOD

FOR

INFANTS, CHILDREN, & INVALIDS.

Sold in Cases of Two Dozen Tins.

Retail, 1s. 6d. per Tin.

BASIS.

1. Pure Swiss Cow's Milk.

2. Certain Meals extracted from different kinds of corn and leguminous seeds, and of which a considerable proportion of the starchy parts have been transformed into dextrine.

ADVANTAGES.

Its large profits to the Trade and certain success wherever introduced.

Used in all the Leading London and Country Hospitals for Children.

"By its use infant mortality should be reduced to a minimum."—
R. S. GUTTERIDGE, M.D.

"I have ordered Œttli's Food invariably with benefit."—
C. T. BROOKHOUSE, M.D.

"Infants and children thrive on it marvellously."—
SAMUEL BARKER, M.D.

"It is the best form of artificial food I have yet had occasion to try."—
——, M.D.

WHOLESALE AGENTS.

F. NEWBERY & SONS,
J. SANGER & SONS,
R. HOVENDEN & SONS,
BARCLAY & SONS,
W. SUTTON & CO., Bow Churchyard
— LONDON.

DUNCAN, FLOCKHART & CO.,
J. MACKAY & CO.,
CLARK & PINKERTON,
— EDINBURGH.

Should any Chemist be willing to stock the above, Messrs. R. LEHMANN & Co. will have much pleasure in furnishing him samples (accompanied by introductory letter) for each of his medical men, free of charge. Write to

R. LEHMANN & CO., 106 Fenchurch St., LONDON, E.C.

NELSON'S PURE BEEF TEA

SOLD IN HALF-PINT PACKETS.

Samples and Prices on application to the Manufacturers,

GEORGE NELSON, DALE & CO.,

14, DOWGATE HILL, LONDON, E.C.

E. LAZENBY & SON (6 EDWARDS STREET, PORTMAN SQUARE,) Sole Proprietors of the Celebrated Receipts and Manufacturers of the Pickles, Sauces and Condiments so long and favourably distinguished by their name, beg to remind the public that their labels are affixed to the choicest description of goods only, that every article prepared by them is guaranteed as entirely unadulterated and may be obtained of Grocers, Italian Warehousemen and others.

HARVEY'S SAUCE.—CAUTION.—The admirers of this Celebrated Sauce are particularly requested to observe that each bottle bears the well-known label signed "ELIZABETH LAZENBY"; this label is protected by perpetual injunction in Chancery of the 9th July 1858 and without it none can be genuine.

18 TRINITY STREET, LONDON. S.E.

Elizabeth Lazenby

SPECIAL NOTICE & CAUTION.

BRAND & CO.

The Original Manufacturers of Essence of Beef (green label under wrapper), and other Specialities for Invalids, have

NOT REMOVED

From their SOLE ADDRESS, No. 11 LITTLE STANHOPE STREET, MAYFAIR, W, and caution the trade to

BEWARE of IMITATIONS.

BRAND & CO'S SPECIALTIES for INVALIDS

EST^D 1835.

ESSENCES of BEEF, MUTTON, VEAL & CHICKEN, BEEF TEA, TURTLE SOUP & JELLY, MEAT LOZENGES &c.

SOLE ADDRESS No. 11, LITTLE STANHOPE ST. MAYFAIR. W.

KOUMISS AND OTHER MILK PREPARATIONS.

"AWARD OF MERIT" at the International Medical and Sanitary Exhibition, South Kensington, August 1881.

TRADE MARK. REGISTERED.

SILVER MEDAL, International and Colonial Food and Produce Exhibition, November 1881.

PREPARED BY THE AYLESBURY DAIRY COMPANY, LIMITED.

TO THE AYLESBURY DAIRY COMPANY.

STROUD, GLOUCESTERSHIRE, September 28th, 1881.

GENTLEMEN,—For some time past I have been in the habit of ordering KOUMISS for patients who required it, and since your KOUMISS was first brought under my notice I have used *that* and *that only* with the very best results. It is, in my opinion, an excellent preparation, pleasant to the taste, keeps well, is sent out in capital condition, and at a price that places it within the reach of all. So long as you continue to supply it in its present form I shall never care to obtain it from any other source. I have used it in hospital and in private practice, patients like it and speak well of it, and it has been most valuable in the treatment of typhoid fever, and in cases of extreme debility with irritable stomach, where it is so desirable to combine a slight stimulant with nutriment in its best and most easily assimilated form.—I am, Gentlemen, yours truly, WM. HY. PAINE, M.D., F.R.C.P. Lond., *Physician to Stroud General Hospital.*

For Particulars apply to the Secretary,

The AYLESBURY DAIRY CO., LIMITED, St. Petersburgh Place, Bayswater, London, W.

MAW'S
SAUCE PIQUANTE,

For Chops, Steaks, Cutlets, Hot or Cold Meat, Fish, Game, Soups, Gravies, Salad, Cheese, &c.

PRICE TO THE TRADE, 9s. & 15s. per doz.

10 per cent. and 5 per cent. Cash Monthly.

S. MAW, SON & THOMPSON, LONDON.

MUSTARD.

FISCH, RICKMAN & CO.'S

Genuine Qualities

Are made from the finest mustard seeds only. The compounds, as manufactured for upwards of a century, are guaranteed free from all ingredients imparting spurious heat, and are therefore equally suitable for both table and medical purposes.

6 BOKEN WHARF, UPPER THAMES STREET, LONDON.

Liebe. DRESDEN.

10 Prize Medals. Award of Merit, Inter. Medic. & Sanit. Exhib. Lond., 81. 1st Prize Sydney, 79.—LIEBE'S SOLUBLE LEGUMINOSE, sole soluble Flour for Soups; requires no cooking; cheaper than Revalenta, Lentilla, common Leguminose, &c.; samples free.—Chocolate with Liebe's Soluble Leguminose, Cocoa with id.—LIEBE-LIEBIG'S SOLUBLE FOOD for Infants, prepared in vacuo upon Baron Liebig's principles.—LIEBE'S EXTRACT OF MALT, pure, concentrated, and unfermented: the same with cod liver oil, iron, quinine and iron, lime, hops; lozenges.—LIEBE'S PEPSINE WINE, digestive liquor. Export to any climate. Prospectuses on application.—AGENTS.—*London*: F. Newbery & Sons, 1 King Edward Street; A. & M. Zimmermann, 21 Mincing Lane; *Hitchin*: Perks & Llewellyn.

CHEMISTS' TEA AGENCY.

WALKER & DALRYMPLE'S
BROKEN-LEAF TEA, 1s. 8d. per lb.
A MONEY SAVING TEA. ABSOLUTELY PURE.
The small leaf from some of the finest India and China Teas. Produces a Tea a the cup, stronger, richer, and cheaper than most whole-leaf Teas. Agen appointed, where unrepresented, throughout the United Kingdom.

WALKER & DALRYMPLE'S
INTERMEDIATE TEA, 2s. per lb.
BE at the PRICE EVER SOLD. Great strength and a most useful Tea here there is a large consumption. Recommended to all who wish to SAV in their Tea. Agents appointed, where unrepresented, throughout the U ted Kingdom.

WALKER & DALRYMPLE'S TEAS.—AGENTS APPOINTED, where unrepresented, throughout the United Kingdom.

Prospectus and Samples Free on Application.
Warehouses, 154 and 155 WHITECHAPEL ROAD, LONDON.
P.O. payable at head office. Bankers, the National Provincial Bank of England.

THE CHEAPEST AND BEST SAUCE.

In Bottles and Half Bottles at half the usual prices.

SPECIAL QUOTATIONS TO LARGE BUYERS.

SOLE MANUFACTURERS—
EVANS, SONS & CO.,
56 Hanover Street, Liverpool.

London: EVANS, LESCHER & WEBB.

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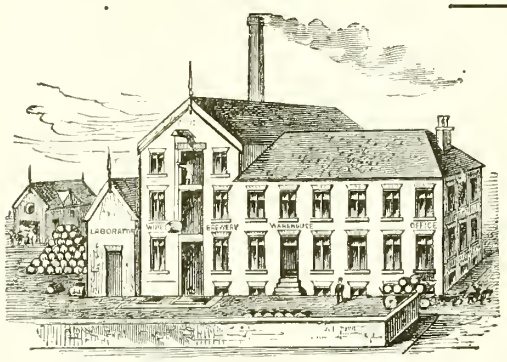

THE LABORATORY, CHURCH STREET.

BENJAMIN ROBINSON

Manufacturing Chemist,

Distiller, & Brewer of British Wines

PENDLETON, MANCHESTER,

Has Removed to his Newly Erected Premises

CHURCH STREET, PENDLETON.

Where he is carrying on his Wholesale and Shipping Trade in British Wines, Concentrated Medicated Waters, Co
Solvent, and other specialities.

ORANGE WINE, B.P., specially made for Quinine Wine.

TERMS ON APPLICATION.

NOTE THE PRICE

LIEBIG'S EXTRACT OF MEAT.

7 lb. Tins	49/- each.	½ lb. Jars	45/- per doz.	2 oz. Jars	12/4 per doz.
1 lb. Jars	87/- per doz.	4 oz. do.	23/3 do.	1 oz. do.	6/9 do.

Prepared according to Baron Liebig's own Instructions. Flavoured Extract of Meat, 6*d.* per lb. less.

10 *lb. weight Carriage Paid.* *Packages Free.* *Orders of* 50 *lbs.* 7½ *per cent. off.*

Also Beef, in 2 lb. tins, at 10/- per doz. Corned Beef, in 2 lb. tins, at 10/6 per doz. Mutton, in 2 lb. tins, at 12/6 per doz.

THE AUSTRALIAN (RAMORNIE) MEAT CO., 9 & 11 FENCHURCH AVENUE, LONDON.

Gold Medal, Paris, 1878. First Degree of Merit and Medals, Sydney, 1880, Melbourne, 1881.

FRY'S COCOA EXTRACT

Is guaranteed to be perfectly pure Cocoa only, the superfluous oil extracte

"If properly prepared, there is no nicer or more wholesome preparation of Cocoa"—Dr. Hassall.
"Strictly pure, and well manufactured in every way."—W. W. Stoddart, F.I.C., F.C.S., *City Analyst.*

Try also **FRY'S CARACAS COCOA.**—"A delicious preparation."

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DANDELION COFFEE
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ESTABLISHED 1760.

Contains three times the strength of ordinary Breakfast Beverages

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The valuable properties of the Dandelion Root, recognised by emin
Physicians for many centuries, has now become an article of daily use.
Sold by all Chemists throughout the Kingdom in Tins at 1s. 6
1s., 9d., and 6d.—*Price Lists on application to the Manufacturers,*

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PROTECTED BY
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BEVERAGE.

PROTECTED BY
ROYAL LETTERS PATENT.

DELICIOUS,
INVIGORATING,
NOURISHING,
PROMOTES SOUND AND
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Prepared only at the Malt Coffee Works, 34 Fleet Street, Liverpool.
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SCIENTIFIC AND MEDICAL OPINIONS.

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MAWER'S TARAXACUM COFFEE,

PREPARED BY AN IMPROVED PROCESS BY WHICH THE VIRTUES OF THE TARAXACUM OR DANDELION ROOT ARE RETAINED IN A HIGH DEGREE.

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Is far the best in the market. Excellent in quality, neatly packed, cheap and economical, and a very pleasable article.

BEWARE OF WORTHLESS IMITATIONS.

Wherever this superior preparation is introduced, Chemists find a ready and increasing sale.

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SOLD BY NEARLY ALL FIRST-CLASS HOUSES.

A LARGE BUYER writes:—"Our customers ask for Mawer's Taraxacum, and will have no other, and we are doing well with it."

A NOBLE EARL, the oldest in the House of Peers, sends the following message:—"Present my compliments to Messrs. Mawer, and tell them I like their Taraxacum, and it agrees with me very well; and request them to send the usual number of tins."

SOLD BY CHEMISTS EVERYWHERE.

Terms and Price Lists on application to the Manufacturers.

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IMPORTANT MEDICAL TESTIMONY.—"I believe Mawer's Taraxacum Coffee to be a very useful preparation for persons suffering with weakly stomachs or sluggish and inactive livers. It is light, and easily digested, and forms a pleasant and palatable beverage for breakfast or supper."—HENRY R. RUCKLEY, L.R.C.S.I., L.R.C.P.E., &c., &c.

The Analytical Report by Professor ATTFIELD, F.R.S., &c., Professor of Practical Chemistry to the Pharmaceutical Society of Great Britain, on every tin.

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Six Doors from Hanway Street.

ESTABLISHED A.D. 1833.

FIRST PRIZE (SILVER MEDAL) FOR TRUSSES AWARDED BY THE WORSHIPFUL COMPANY OF CUTLERS OF THE CITY OF LONDON, MAY, 1879.

FIG. 1.

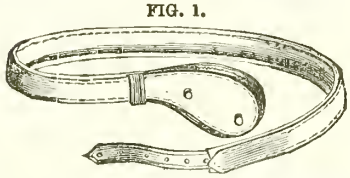


FIG. 4.

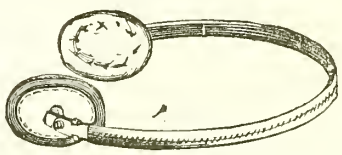
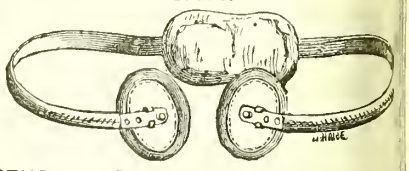


FIG. 5.



TRUSSES.

Circular Trusses, single, as Fig. 1, basil and chamois or basil and moleskin	per doz.	£1	1 0
Circular Trusses, double, basil and chamois or basil and moleskin	per doz.	1	14 0
,, ,, ,, with extending backs ..	,,	2	14 0
Salmon & Ody's Expired Patent, single, Fig. 4 ..	,,	1	10 0
,, ,, ,, double, Fig. 5 ..	,,	3	0 0
Moc-Main Lever, single	each	0	8 0
,, ,, double	,,	0	13 6
Coles's Expired Patent, single	,,	0	5 6
,, ,, ,, double	,,	0	10 6
Scrotal Trusses, basil and chamois or moleskin, single ..	,,	0	4 0
,, ,, ,, ,, double ..	,,	0	7 0

SUSPENSORY BANDAGES.

No.				
1.	Cotton Bags and tape under-straps	per doz.	0	8 0
2.	Cotton Oxonian, with drawing-strings	,,	0	10 0
3.	Silk Bags and tape under-straps	,,	1	1 0
4.	Silk Oxonian, with drawing-strings	,,	0	18 0
5.	,, ,, Bags bound with elastic	,,	1	4 0

SUSPENSORY BANDAGES—*continued.*

No.			
6.	Silk Oxonian, superior quality, bands of buff jean, with drawing-strings	per doz.	£1 4
7.	Silk Bags, to button on, with tape under-straps..	,,	1 1
8.	,, ,, ,, under-straps to button	,,	1 4

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Manufactured expressly for Export, and warranted to stand a hot climate better than any others in the Market.

		Silk.			Super. Silk.			Cotton.			Super. Cotton		
		£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
Stockings	per pair	0	9	6	0	14	2	0	5	6	0	6	1
Knee-caps	,,	0	6	6	0	10	0	0	3	8	0	5	5
Calf-pieces	,,	0	7	0	0	9	6	0	4	4	0	5	5
Socks	,,	0	5	6	0	8	0	0	3	6	0	4	5
Wristbands	,,	0	2	2		—		0	1	6	0	2	7
Knee Stockings	,,	0	16	0	1	4	2	0	9	2	0	12	
Belts, to draw on ..	each	0	16	6		—			—		0	12	

The above may be obtained direct from the Manufacturers, or from their Wholesale and Export Agents Messrs. Barclay & Sons, 95 Farringdon Street.

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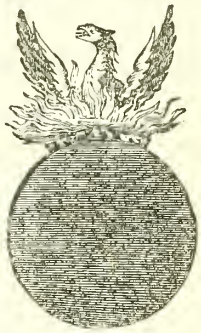

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All Colours in 1, 2, 4, 7, and 14 lbs. All Colours in 1, 2, 4, 7, and 14 lbs.

SOFT SOAP, GREASES, LINSEED MEAL, AND CRUSHED LINSEED

IMPORTERS OF

Petroleum, Benzoline, Gasoline, Turpentine, Olive, Colza, Cod, Castor, Seal, Whale, and Sperm Oils; Tallow, Pitch, Rosin, &c., &c. Sole Proprietors of the

CELEBRATED ELECTRIC LIGHT OIL

The most beautiful and perfect Illuminator.

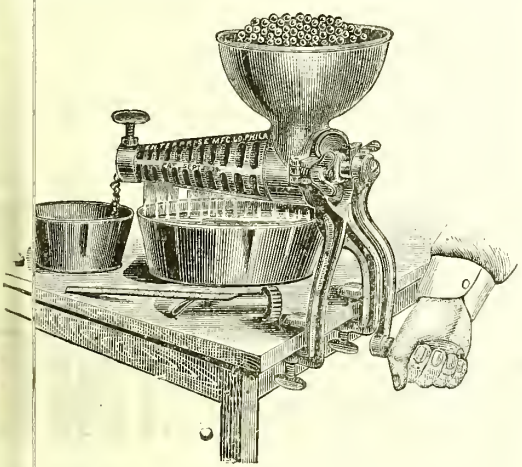
OIL REFINERS AND DRYSALTERS.

THE

NTERPRISE TINCTURE PRESS,

SPECIALLY ADAPTED FOR COARSE AND FIBROUS DRUGS.

The principle upon which this Press operates is, that the ug acted upon in a continuous thin layer which is forced rwa by each revolution of the screw into small and all space, the leverage yielding a force so powerful as to trac almost the entire moisture, delivering the residue sui ble drugs with almost crisp dryness, and as experi- ce h shown it saves a greater amount of Tincture (very por nt in the case of Tincture of Opium and other ex- nsiv drugs) than even the most powerful Hydraulic ess. So thorough is its action in this respect that the hemas' *Journal* has humorously remarked of it that "it ill a ost squeeze blood out of a turnip." One firm informs tha they have made a saving of upwards of 20*l.* in three ontl more by the use of this Press, than they could cure y using any other Press. The working of this Press ing ntinuous, either small or very large quantities may o ated upon at one time, and much more rapidly than an other form of apparatus.



The act that drugs require handling but once, that the e of ress cloths is done away with, and that the operation con uous, shows a great advantage in this Press over any her.

REPORTS UPON

HE NEW TINCTURE PRESS,

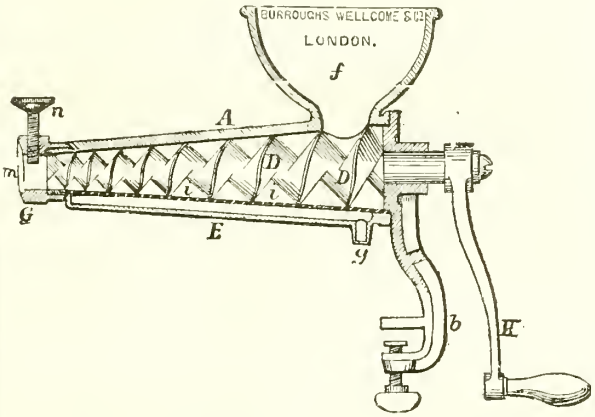
BY PROF. JOSEPH P. REMINGTON,

(*Of Philadelphia College of Pharmacy*).

"Th Enterprise Manufacturing Company of Philadelphia ave rfected a press for pharmaceutical purposes which ds fr to supplant most of the appliances which have en i roduced from time to time. The particular advant- es v ich are possessed by this press are, that the use of ress oths is entirely dispensed with, with all of the vexa- ons tending their use; from its novel construction, the sidu can be delivered uniformly dry, and thus the objec- on t most of the presses which leaves the residual cake mpa tively dry on the surface, but with varying amounts f mo ture in the interior, is avoided. Its great power, heap ss, compact form and adaptability to many wants f the ruggist, are some of its principal recommendations."

It c sists of a tapering cylinder (*A*), which has a hopper r bo (*f*) with an outlet (*m*) and perforated plate (*i*), and tap ing auger-like screw (*D*) extending the full length hich its snugly, but so as to turn freely in the cylinder, ell i strated by the accompanying cuts.

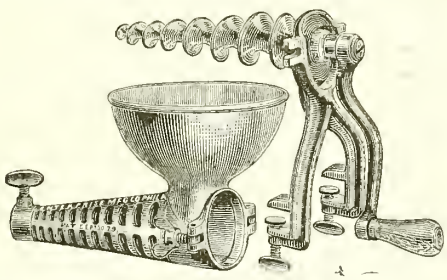
The metal composing the principal parts of the press is ast i n, well galvanized; the tapering casing is secured at s la est end to a stand which has two legs, furnished with clamps (*b*) for fastening it firmly to a table. On the under side of the casing is a hollow rib, within which is a chamber or channel for holding in position the perforated brass plates, of which there are several, with perforations of different degrees of fineness, to suit the various purposes to which the press is applied. These perforated brass plates are concave transversely, so as to form a continuation of the



SECTION OF TINCTURE PRESS.

surface of the interior of the casing. The small end of the casing is provided with means whereby the outlet may be contracted or enlarged, and this consists of a brass screw (*n*), which on being turned in one direction diminishes the area of the outlet, or if turned in the opposite direction the area is increased. This screw is adjusted in a detachable ring (*G*), which is screwed on the small end of the casing. The thread of the large tapering screw has a differential pitch, the pitch gradually decreasing from the large to the small end of the screw, thereby forming within the casing a spiral channel gradually decreasing in size.

The substance from which the liquid portion is to be separated is placed in the hopper, and the screw turned by using the handle (*H*) in such a direction that the thread will have a tendency to withdraw the substance from the



SPIRAL CHANNEL AND CASING OF TINCTURE PRESS.

hopper and force it through the tapering spiral channel formed by the screw within the casing, in doing which the pressure on the substances will gradually increase as they approach the small end of the casing, the liquid matter thus forced from the materials meanwhile passing through the perforated plate (*i*) into the pan or receptacle below, whilst the residual matter passes off through the outlet (*m*).

The writer has used this press with great satisfaction in pressing juices from fruits, recovering alcohol and weak tinctures from percolation residues, and it is particularly useful with such drugs as arnica flowers, hops, &c., and those bulky, absorbent drugs that succeed so well in wasting alcohol. In expressing opium mass, in preparing aqueous extract of opium, it is very useful; the only class of drugs which cannot as yet be successfully treated are those in very fine powder or such as are of a very sticky or tenacious character. These presses may be obtained from Wholesale Druggists in every part of the world, or from the European Depôt of BURROUGHS, WELLCOME & Co., 7 Snow Hill, London.

THE "A1" COD LIVER OIL.

FREE FROM INDIGESTIBLE FATTY ACIDS.

Our Own Manufacture. Guaranteed Pure. Does not Chill in Cold Weather.

PRICE 9s. PER GALLON IN WINCHESTER QUARTS.

The New Circular, which gives the opinions of many of the leading Pharmacists in Great Britain, is now ready; those who require a supply should send their names and addresses for printing. Blue Trade Mark Labels supplied as usual.

PREPARED MALT FOOD,

FOR INFANTS AND INVALIDS.

In Tins holding about 1 lb. each, to retail at 1s. each. Price 7s. 6d. per dozen, less 10 per cent. three months, WITHOUT NAME AND ADDRESS.

S. B. & B. will be glad to supply a List of Articles which they pack without name and address for Chemists to adopt as their own.

SOUTHALL BROS. & BARCLAY, Manufacturing Pharmaceutists, BIRMINGHAM.

DRAPER'S INK (DICHROIC)

THE NEW BLACK INK, different from anything else ever produced.

Writing becomes a pleasure when this Ink is used. It has been adopted by the principal Banks, Public Offices, and Railway Companies throughout Ireland.

It writes almost instantly full black.
Does not corrode Steel Pens.
Dries rapidly on the Paper.
Is cleanly to use, and not liable to blot.

Flows easily from the Pen.

Blotting-paper may be applied at the moment of writing.

In Jars, 6d., 1s., and 2s. each.

Can be obtained, in London, through Messrs. Barclay and Sons, Farringdon Street; W. Edwards & Son, 157 Queen Victoria Street, London, E.C.; F. Newbery and Son, Newgate Street; S. Maw, Son, and Thompson, Aldersgate Street; Jones and Co., 98 Southwark Street; Harvey, Shepherd & Co., Charterhouse Square, London; Wm. Mather, Manchester; Ayrton and Saunders, Duke Street, Liverpool; and Goodall, Backhouse & Co., Leeds.

BEWLEY & DRAPER, Limited, DUBLIN.

See "CHEMIST AND DRUGGIST," December 15th, 1874.

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PHOSPHORISED COD-LIVER OIL.

Was introduced to the Profession by Messrs. SAVORY & MOORE.

The advantage of this (the ORIGINAL) preparation over the imitations of it consists in the ability to administer a SUFFICIENT dose of Phosphorus without the admixture of a LARGE quantity of Cod-liver Oil.

Dose, 1 to 2 drachms. Supplies in bulk or small bottles.

THE FINEST COD-LIVER OIL.

Is not only the Palest in colour, but it is the Purest and the Most Palatable kind in use.

In Half-pint, Pint, and Quart Bottles.

PANCREATIZED (DIGESTIVE) COD-LIVER OIL.

By combining the Pancreatic Juice with the Oil, the digestion of the latter is easily and rapidly effected, nausea is prevented, and the beneficial properties of the Oil are increased.

Dose, 1 to 4 drachms.

COD-LIVER OIL.

Combined with Alkaloids, Medicinal Salts, and other important substances, capable of solution in Cod-liver Oil.

PANCREATINE (In Powder or Granules),

Represents the active principle of the Pancreatic Juice, by which Fat and Oils are digested and assimilated.

Dose, 3 to 5 grains.

PANCREATINE WINE.

An excellent vehicle for taking Cod-liver Oil, and promoting the digestion of it.

Dose, 1 drachm.

PEPSINE PORCI AND PEPSINE WINE.

Supplied in Bulk or Small Bottles.

"The Pepsine prepared by your process *is possessed of considerably more digestive power than that of any other description of Pepsine.*"

Dr. Letheby.

PEPTODYN.

A combination of the whole of the Digestive Secretions—Pepsine, Pancreatine, Diastase, or Ptyalin, &c., forming a valuable remedy in all forms of Dyspepsia, and diseases arising from imperfect nutrition.

Dose, 3 to 5 grains.
Bottles, 2/9, 4/6, and 11/.

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AND ALL CHEMISTS THROUGHOUT THE WORLD. [2]

THE CHEMIST AND DRUGGIST

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Literary Contents.

	PAGE
rm for Students	52
ar ealia	53
Tl Opium Question	54
Fr dom of Debate	54
Soc ty of Public Analysts	54
Sha Certificates	54
ar acy in Great Britain. J.	
Inc	55
tic al Port Wine	55
e emists and Druggists'	
Tr Association of Great	
Brita	56
e armaceutical Council	57
ar ceutical Society of Ire-	
la	59
ems' Assistants' Association	60
tr olitan Reports	60
ov ial Reports	61
Pr caution by the Trade	
Ac iation	61
e roscope—Hints to Be-	
gi ners	63
re ort Hydriodic Acid. By	
W Gilmour	65
N Connection between	
An als and Vegetables	65
ap ortion of Opium into	
Ch	67
Ch mical Society	67
Mi cellaneous Formulæ	68
Me cal and Magisterial	
Pr visions Patent Medicines	68
Co ter Practice	68
Me hylated Laudanum	71
Ir sh Pharmacy	73
Ba kruptcies and Liquidations	76
Fo eign and Colonial	76
Medical Gleanings	77
Editorial Notes	78
Chemists and the Law	78
Prescribing Chemists	80
British v. Colonial Pharmacy	80
Lead Contamination	80
Heraldic	81
Decline of the Pharmaceutical Society	80
Reviews and Literary Notes	8
Scientific Notes	84
Artificial Indigo	84
Wine making	85
Denaturalisation of Alcohol	85
Practical Notes on Pharmacy	87
Hydrobromic Acid	87
Compound Solution of Hypophosphites	87
Cod liver Oil	88
History of the Word "Drug"	88
Poisoning Cases	89
Obituary	90
Notes of Novelties	91
Thibet Musk	91
Pharmaceutical Vacuum Apparatus	91
Trade Notes	92
Patents	93
Abstracts of Specifications	94
Gazette	96
Personalities	96
Exchange Column	97
Trade Report	100
Monthly Price Current	101
Replying for the Press	102
Correspondence	103
Pharmacy in New Zealand	103

THE MONTH

By esolution of the Pharmaceutical Council the following bs nces are to be included in the second part of the ois Schedule of the Pharmacy Act if the resolution be pp ed by the Privy Council: Sulphuric, hydrochloric, nd tric acids, butter of antimony, carbolic acid, hellebore, ux mica and its preparations, and vermin-killers contain- g osphorus. The effect of this resolution, if adopted, ou be that those substances must be labelled "poison," ith ne name and address of the seller, and could only be ld registered chemists and druggists.

TH Registrar's report presented at the last meeting of e harmaceutical Council shows a net increase of 193 am on the register of pharmaceutical chemists and emists and druggists during 1881, making a present total f 15 55. The statistics of the Pharmaceutical Society on he ther hand show a decrease of 50 members for the year, n increase of 44 associates in business, a decrease of 23 ssoc tes not in business, and a decrease of 28 appren- ces

TH Chemists' Trade Association have successfully prose- ute two unqualified dealers in poisons at Carmarthen, under the 17th section of the Pharmacy Act, and they also announce their intention to prosecute in the case of a registered chemist who had sold poison at a branch shop 100 miles from his place of residence.

The Pharmaceutical Society of Ireland have obtained a conviction at Coleraine against a person who would appear to have been one of the old race of chemists and druggists, but who, not being qualified under the Pharmacy Act, had illegally compounded a medical prescription. The Council of that Society are also moving to get the Irish Poisons Act enforced.

The police have prosecuted Mr. Harvey, the proprietor of Hunter's Solution of Cubral, for selling that preparation without labelling it "poison" in accordance with the 17th section of the Pharmacy Act. The defendant claimed that being a patent medicine it was not affected by the Act, but he was fined. He gave notice of appeal, but we understand he does not intend to proceed with the case.

A chemist at Kidderminster has had to pay 50*l.* damages for alleged wrong treatment of a man's finger, which ultimately had to be amputated. Our special report of this case will be found interesting.

A limited company of druggists at Lynn were sued by the Board of Inland Revenue for selling laudanum in which wood spirit was detected, and which it was therefore supposed had been prepared with methylated spirit. But the defendants swore that they had made the laudanum with rectified spirit, and had added some naphtha afterwards, and the Board were not able to contradict this statement.

A Commission in Germany has reported on the processes for denaturalisation of alcohol for manufacturing purposes as methylated alcohol is made here, and an abstract of their report appears on page 86. It is of importance to manufacturers of chemicals.

On page 65 we print an article on Syrup of Hydriodic Acid, by Mr. W. Gilmour.

Professor Roscoe has published a communication from Professor Baeyer, the inventor of the process for making artificial indigo, describing the present position of the industry. It appears that, so far from being abandoned, as has been reported, 200 kilos. are being turned out daily, and sold at 10*s.* per kilo.

The Chemists' Ball was held at Willis's Rooms on the 18th ult., and was attended by 332 ladies and gentlemen, the full number of 350 tickets having been disposed of. Mr. J. G. F. Richardson, of Leicester, presided at the supper, and Mr. J. F. Savory, the honorary secretary, carried out all the arrangements. A "Junior Chemists' Ball" is announced for Friday next, and chemists and their ladies have also been dancing at Birmingham, Aberdeen, and Vienna. We report feasting at Nottingham, and another festival at St. James's Hall, of the London chemists' assistants.

We have to report that a calamitous fire occurred at the warehouse of Messrs. Morson & Son, Southampton Row, on January 17, in which two of their assistants lost their lives.

Just before going to press we learn with much regret that Mr. Daniel Bell Hanbury died on Sunday last, the 12th inst. Mr. Hanbury had long since retired from active business life, but his interest in pharmacy had not ceased, and many will remember the impressive scene on the occasion of the Pharmaceutical Congress last summer, when the Hanbury medal was awarded in the presence of the honoured father of the honoured son. Mr. Hanbury was in his 80th year.

CORNER FOR STUDENTS.

CONDUCTED BY RICHARD J. MOSS, F.C.S.

THIS paper should have been published last month. The next distribution of samples for analysis will be announced next month.

REPORTS.

The mixture of salts which formed the subject of the last exercise consisted of—

	Parts
Copper nitrate	2
Lead nitrate	2
Barium nitrate	1
Strontium nitrate	1
Potassium nitrate	2

It contained traces of iron and calcium, and chlorine as impurities.

The colour of this mixture at once suggested the presence of a salt of copper. Colour indications must, however, always be considered with due regard to the fact that the mixture of two or more coloured bodies may produce an effect altogether misleading. If a yellow compound had been present the colour of the mixture would have been green, provided no chemical reaction had taken place between the several constituents; and it would be easy to suggest a number of combinations of coloured salts which, if mixed, would simulate totally different bodies.

In the preliminary examination the colour imparted to the Bunsen flame was due to four metals, each of which contributed more or less to the general effect; but in this case the separate effects of some of the metals could also be distinguished on account of the difference in the volatility of the oxides. No great importance can be attached to indications of this questionable character: they must be taken only as suggesting rather than demonstrating the presence of certain metals. With the aid of the spectroscope of course no such uncertainty exists. It is to be hoped that this instrument will be more frequently employed in practical chemistry as it becomes more generally known, now that good spectroscopes for laboratory purposes can be obtained for a comparatively small sum. It is to be regretted that the spectroscope receives so little attention from the authors of books on analytical chemistry. Another fact easily ascertained in the preliminary examination was the existence of both lead and copper in the mixture. Heated on charcoal with sodium carbonate lead revealed its presence by the characteristic yellow incrustation, and the production of malleable metallic beads which marked paper, while the copper produced beads or spangles which could at once be recognised by their colour. It requires some practice to distinguish between the different yellow incrustations produced on charcoal, when salts of zinc, tin, lead, or bismuth are reduced with sodium carbonate in the reducing flame, but when the nature of the incrustation is considered in connection with the appearance or non-appearance of metallic beads exhibiting some distinctive feature, it is comparatively easy to arrive at a correct conclusion. In the case of mixtures such as we are at present dealing with the results obtained may differ considerably from those that are observed when one metal only is present. The metallic beads produced in this case consisted, some of lead and others of copper, unless the ignition was long continued, in which case beads were produced which resembled lead only; but on flattening them by pressure in an agate mortar, and examining them with a lens, particles of copper could be detected enclosed in the lead. The student must be prepared for such variations in the results, and ought to endeavour to modify the mode of procedure according to circumstances, with the view of deducing correct conclusions, and of eliminating the sources of uncertainty that are sure to arise. It will be seen from these remarks that, having got so far in the preliminary examination, and spent at the utmost one hour at the work, the student has acquired information which will be of the greatest value in the more elaborate examination of a solution of the mixture. Having learned that copper is present, and no indications of mercury having been detected, he is aware that the separation of the sulphides soluble in the sulphides of the alkalies will be best accomplished by the use of sodium sulphide, instead of the ammonium compound which is usually employed, but which would be objectionable in this case on account of its solvent action on copper sulphide. Having observed the flashes of red when a small portion of the substance was heated on a platinum wire in the Bunsen flame, he is prepared to find strontium when he proceeds to examine the ammonium carbonate precipitate. The violet-blue tint which the Bunsen flame finally assumed naturally suggested potassium, which the student would accordingly expect to find in the wet examination, and which, it is true, was present; but this flame coloration was not caused solely by potassium: it was partly due to the lead. With such information for his guidance the subsequent examination presented no special difficulties. Perhaps the most fruitful source of error in this analysis was in the separation of strontium; in some cases sufficient time was not allowed for the sulphate to make its appearance.

PRIZES.

The First Prize for the best analysis has been awarded to WILLIAM FOWLER, 3 Manchester Terrace, Kilburn, N.W.

The Second Prize has been awarded to R. ARROWSMITH, Eccleshall, Staffordshire.

Marks Awarded for Analyses.

William Fowler (first prize)	93
R. Arrowsmith (second prize)	90
Excelsior	86
W. Miller	80
Nil desperandum	75
T. Muskett	75
J. H. Garrett	70
Milligramme	50
Iueruditus	30

TO CORRESPONDENTS.

Prizes.—The students to whom prizes are awarded are requested to write at once to the publisher, naming the book they select, and stating how they wish it forwarded.

Any scientific book that is published at a price not greatly exceeding half-a-guinea may be taken as a first prize.

Any scientific book which is sold for about five shillings may be taken as second prize.

*** All communications should include the names and addresses of the writers.

Excelsior.—Strontium was imperfectly precipitated as sulphate, and accordingly appeared where calcium only ought to have been. To guard against such an error it would have been well to test a small portion of the filtrate for strontium before adding ammonium oxalate to the remainder.

W. Miller.—The dry examination, which you describe last in your report, ought to come first, as the information gained from it is of great assistance in the subsequent analysis of the solution.

Nil Desperandum.—Your failure to obtain metallic beads was probably due to the employment of an oxidising instead of a reducing flame. It is quite possible that you did produce beads, but did not notice them. It is a good plan to expose the mass after fusion to a gentle current of water in a small agate mortar, so as to dissolve the soluble portion, and wash away the light parts. Very small beads can be detected in this way, and then, if necessary, pressed with the pestle to see whether they are brittle or malleable.

J. H. Garrett.—The flashes of red which you observed when the substance was heated in the Bunsen flame are not accounted for in your report. Assuming that all the strontium was precipitated as carbonate, dissolved in acetic acid, and potassium chromate added, your statement that the filtrate from the barium chromate gave no precipitate on the addition of sulphuric, even after the lapse of some time, is quite inexplicable. If acetic acid was not in excess strontium would be thrown down with the barium, but a considerable portion would remain in solution.

Milligramme.—In your experiments in connection with the detection of acetic acid, the blackening in some cases and not in others is explained by variations in the heating. On heating the mixture with alcohol and sulphuric acid a very complicated reaction would take place, nitric acid being present.

Iueruditus.—The accident you refer to of course placed you at a great disadvantage, but you did not make the most of the remainder. You must proceed in a more systematic manner. Employ the group reagents in the proper order, and remember that one of the principal objects to be attained is the separation of the several constituents, so that a special test may be applied with the certainty that no substances which can interfere with the reaction is present. You will find it a good plan to prepare mixtures yourself, and analyse them.

Pharmacalia.

The Opium Question.

The great opium trade is too important in its bearings not to be of deep interest to those engaged in pharmacy. On one side, it is contended that it is an immoral and degrading traffic to be tolerated on no plea of commercial gain; on the other, that its continuance under British influence may be defended on just grounds. Sir Rutherford Alcock, whose right to speak will not be questioned, has issued his views upon the subject, and we think it an act of fairness that his statement should, in brief words, be presented to the reader.

While speaking with all respect of the civil and clerical dignitaries who head the Society for the Suppression of the Opium Trade, he complains of the exaggerated and sensational remarks recorded, which produce a fictitious excitement in the religious mind at home, while they steel the political and mercantile mind abroad against all reasonable and moderate representation. In 1869, when the treaty was under revision, he did his best, though unsuccessfully, to induce his own and the Chinese Government to come to an arrangement, the object of which was to gradually restrict the cultivation of opium in both countries—to limit the consumption by diminishing the quantity of the produce and increasing the cost. Thus sudden and violent displacements of capital and industry would have been avoided, as also deficiencies in the revenue.

England had been charged with forcing an unwilling nation to purchase large quantities of poison which she had grown, and that she had not scrupled to go to war to enforce an unjust trade. This accusation Sir Rutherford, who for more than 20 years has lived in China, is prepared boldly to deny. Nothing could compel the Chinese, or any other people, to purchase or to smoke opium which they neither desire nor required, nor for a century to buy the drug in increasing quantities. Imperial edicts were issued occasionally in China to prohibit the sale of the drug; but they were habitually disregarded by those on whom their execution depended, till the Chinese Government, grown wiser by experience, legalised the importation of opium at a reasonable duty, on the settlement of the tariff which took place at the end of the second war, and *after* the signing of the treaty. Neither in that treaty, nor in the later convention signed at Pekin, when China was powerless, was any clause for the protection of the opium trade introduced. The placing the drug on the tariff at a fixed duty was the spontaneous action of the Chinese for their own advantage, not for ours.

The opium trade has been one of very gradual development. Starting in 1767 with 200 chests, in 1880 it rose to 96,833. Why, when neither Great Britain nor the East India Company could afford any rupture, lest they should injure the sale in tea, did not the Chinese Government, during the progress of its rise, make an effectual effort to put down the opium traffic?

Meanwhile it is notorious that large quantities of the poppy were cultivated in the provinces. In 1830 it was represented to the Throne that poppy was grown over one half of Che-kiang; and another censor urged the policy of legalising the sale on that ground; while a third, in 1836, declared that the annual produce of opium in his native province of Yun-nan could not be less than several thousand piculs.

With this they drove a profitable trade with Burmah, the opium being conveyed by Chinese caravans annually to Ava, the capital. In 1839 Commissioner Lin, with thoroughly Asiatic and barbaric mode of dealing with foreigners, seized and destroyed 20,000 chests of Indian opium. Had it been cotton, or any other article of trade, war would no less certainly have followed. The true cause of this our first war with China was to put an end to a state of things utterly intolerable, and to commercial relations solely governed by the caprice and arbitrary will of an irresponsible Asiatic ruler and his Satraps, who acknowledged no reciprocal obligations, and no rights on the part of foreign powers or their subjects. Throughout, the Chinese treated foreigners with arrogance and contempt, placing them on a level with barbarians. A nation in total ignorance of the relative power of other States cannot be said to have a trade forced upon it. In 1840 force was brought into play to cause the acceptance of a treaty which was the price of peace, but it contained no opium clause. In the Supplementary Treaty of 1843 opium is not included in the tariff of articles which might be legally imported, and it was mutually agreed that, a perfect understanding having been arrived at between the Imperial Commissioner and the British Plenipotentiary, "On the subject of opium the British and Chinese Governments shall adopt their own rules and regulations respectively with respect to their own subjects." The trade went on largely increasing, but unmolested, till in 1856 the Chinese officials boarded the lorcha *Arrow*, near Canton, carried away her crew, and pulled down the British ensign. This, not an opium question, brought on the second war. The treaty signed at the termination of the dispute bore no reference to opium.

Sir Rutherford Alcock argues that the whole history of the Chinese wars shows that no fear of British power influenced the Celestials, and that it is idle to assume for them high moral antipathy to the trade in opium, when they permitted the open culture of hundreds of square miles of poppy-fields throughout nine of the great provinces, most remote from foreign aggression or influence of any kind.

These nine provinces comprise a vast area, and contain an enormous population. There is a superfluity of evidence to show that no Indian opium is consumed in all this vast region, but some considerable portion of the produce is sent into the Eastern provinces, chiefly for admixture with the Indian, to make it cheaper. This trade is under imperial sanction and legal licence.

In 1865, Mr. Walters, Her Majesty's Consul at Ichang, reports that all over Western China the conditions of poppy-culture, as far as the officials are concerned, are those of perfect freedom, and even open encouragement. A variety of similar evidence is adduced. M. Soltan says of Yun-nan—Opium forms the principal export, and is carried all over the empire of Burmah. No Indian opium reaches Upper Burmah. At the same time we have the solemn assurance, "Government will take effective measures to enforce the laws against the cultivation of the poppy in China, and otherwise check the use of opium; and I earnestly hope that your society and all right-minded men of your country will support the efforts China is now making to escape from the thraldom of opium." [Li Hung-Chang, July, 1881.]

Sir Rutherford reminds his hearers that the Christian world should not insist too strongly upon the argument of force. It will not be disputed that we have imposed our missionaries upon the nation by treaty, and upheld them in the exercise of their functions against the will of the rulers. Repeated have been the acts of hostility against the proclaimers of the new religion, and relentless has been the opposition. Nothing can be more virulent than the abuse contained in the Chinese book called the "Sacred Edict." The massacre of a whole mission, together with the French Consul, secretary, and other foreigners, was a typical

example of this furious dislike, and this was but one amongst similar outbreaks of popular indignation. Sir Rutherford maintains also that opium is not comparable in its deleterious effects to the abuse of alcohol. We cannot enter into other points of the discussion, but we have been at some pains faithfully to reproduce the bearings of the question. Mr. James Caird adds in a letter to the *Times*, "The Indian growth, so long as it remains a Government monopoly, is strictly limited in its extent. The control abandoned, the growth would rapidly extend, and the evil would become worse. If the British Government gave up this source of revenue the Chinese would at once increase their home supply, though they might be obliged to content themselves with an inferior and probably more noxious quality.

Freedom of Debate.

Members of the Pharmaceutical Society will hardly be struck with admiration at the tone of discussion lately introduced into the governing body. The occasion was a very natural discrepancy of opinion relative to the desirability of an annual exhibition of chemicals. Two years ago there was an admirable display, but a second attempt was not quite so satisfactory. Nevertheless, an impartial observer would allow that the collection was a good one: much general interest was evinced; several exhibits were of extreme interest; and the members had a legitimate escape provided from the known dreariness of an anniversary meeting. Besides which, it was an exhibition in the Society's own house, apart from which circumstance it would have possessed no distinctive character. It happened, as must always happen, that the zeal was not sustained, and in May last some effort, amounting to pressure, was required to stimulate the apathetic. Finally, by way of padding, certain trade specialties were introduced, which did not tend to advance pharmacy as a science. For ourselves, we concur in the resolution: "That it is not desirable to have an exhibition more frequently than once in three years." On these singularly cool points some of the councillors managed to grow hot, which is the more remarkable as Mr. Symes put his resolution in the form of a suggestion. Then rose a member of the old Committee of Management, and detailed the grievances of the Executive. "Respectable exhibitors were wanting, while quack preparations could have been received by the hundred." The result was, that sufficient fit articles not being forthcoming, the Committee was censured all round, and the exhibition was described as "meagre, poor, and bad." Another councillor had taken great interest in the subject, and could not go so far as to stigmatise the results of last year's exhibition, though he thought the experiment should not be immediately repeated. He "was sorry to think that the persons who came from the country had not had the same astute acumen and erudite skill as one of the speakers, and no doubt things might please them which only meet with the contempt of those who had the privilege of living in London; but in the provinces they could not expect to possess the same consummate ability as chemists in Mayfair, and it was their duty to a great extent to cater for the provincial element in the Society."

We submit that the first speaker mistook the adverse sentiments of those surrounding him for the verdict of the public; but the second quotation may be qualified as chaff of a questionable order, and not of a kind admissible in an executive assembly.

The Society of Public Analysts.

The Society of Public Analysts held its annual meeting on January 18, the chairman, Mr. Heisch, being re-elected President. There are now 116 members and 18 associates, 134 in all. Twenty-five papers have been read, exclusive of six printed in the Society's journal, *The Analyst*. The chief work of the year has been a set of strictly comparable analyses of the public water supplies of the country. By mutual co-operation on one definite system, uniformity of results has been obtained. A description of all the sources of water-supply has been published, and Mr. Wigner has furnished a digest of the work done by public analysts in 1880. Many difficulties arise from the relation in which this body stands to the officials at Somerset House. The certificate of these latter authorities is popularly regarded as final evidence, an opinion shared not only by some professional analysts, but by vestry-clerks and magistrates. This notion was strongly combated in the introductory address. It seems that when Mr. Sclater-Booth had charge of the Bill which became the Sale of Food and Drugs Act, Sir H. Peek proposed to insert after Somerset House the words, "whose decision shall be final." The proposer refused to insert them, and the matter being pressed to a division, they were rejected by a large majority. Analysts, in case they differed, were to be subject to examination on oath, and were to have the opportunity of justifying their decisions if they could. Unfortunately there are no means at present of knowing the limits adopted by the Somerset House chemists, and their processes have not been divulged. It does occur therefore from time to time that there is conflicting testimony; the Government official statement is allowed to pass unchallenged, and there is no way of ascertaining on what particular grounds it was based, nor by what standard the purity or impurity of an article was determined. That this complaint is not imaginary is evidenced by the alum in bread case we commented on last month. There would be no grievance were not the explanation only on one side.

The body of public analysts claim that they should have the power when their certificate is contested or nullified by an opposing certificate to call upon the givers of such adverse certificates to justify them on oath. Else might is right.

Sham Certificates.

Our brethren in the provinces have not been subjected to a visitation similar to that experienced by their *confrères* in France. A set of youthful swindlers, under the guise of chemists' assistants, have victimised several unsuspecting pharmacists who reside at a distance from the French metropolis. These gentry provided themselves with false credentials, purporting to be signed by eminent Parisian pharmacists. Having thus gained places, and also the confidence of their employers, the money in the till began to volatilise, as well as the more saleable articles in the pharmacy. When discovery was imminent, the so-called assistant betook himself to another sphere of action. One of them offered his services at Vienne, not far from Savoy, but a good long way, as the map will show, from Paris. He had with him a sham certificate with a forged signature of a pharmacist in the Rue Montmartre. On being arrested and conveyed to the prison of Montmorillon, he confessed to having held several situations under various assumed names. As there is sometimes an epidemic in fraud, we may have the manœuvre repeated amongst ourselves. To be forewarned is to be forearmed. The names assumed were ingeniously selected, being those of students who had either been recently successful, or of assistants well known for their ability.

PHARMACY IN GREAT BRITAIN.

WHITHER are we tending? We think no good will rise from not at once facing the unpleasant truth, that for five years at least the Pharmaceutical Society has been steadily decreasing. The Registrar's report is before us, and we cannot gainsay its statements. We venture to dissent altogether from the views of our Vice-President, that it would be wise for the subject not to be too much discussed at present, but at a convenient time referred to a committee which has under consideration a new Act of Parliament. In one sense the matter is singularly inconvenient and uncomfortable, but it will not be less so by shelving it to some indefinite period.

No sooner did the failure of the Union Générale spread wide desolation through a large section of the French community than the authorities set about to allay the evil by a rigid examination into the causes of the disaster. In this we may well emulate their example, and try to put our house in order.

First, let us clear up the side question of our examination scheme. That men should rest satisfied with the Minor examination, the passing of which gives a legal right to practise pharmacy, and should neglect the Major, which gives a higher title, but no more legal trade right, is natural. The Minor is compulsory, and for all business purposes is sufficient. The Major is voluntary, and the title it bestows is not distinctive. An honourable ambition alone prompts its being undergone, and that ambition is not adequately rewarded. Chemist and druggist is not so high a name as that of pharmaceutical chemist, but to the uninitiated is the same thing and conveys the same impression. Should we ever wish to render the Major qualification something to be coveted, we must either link it with a visibly-distinct title, or make it the passport to tangible advantages.

Thus far concerns the legalisation of the practice of pharmacy in Great Britain. Standing as it now does, candidates, on passing the Minor examination, acquire trade right; while those who pass the Major examination gain a higher qualification to exercise that right, and from their ranks the members of the Pharmaceutical Society are drawn.

But this Membership of the Pharmaceutical Society, which is oozing slowly into desuetude, is the chief point under consideration. A member of Council has the courage to say—that which everyone's experience will confirm—that the public does not recognise the difference between a pharmaceutical chemist and a member of the Pharmaceutical Society. We—that is, all of us who are engaged in pharmacy —perfectly see the difference, and we know that a duly-qualified, examined man may or may not, as he pleases, belong thereafter to a society which originally called the examinations and the whole framework of the educational system into being.

Were we to enter into the morals of the question, we might confess surprise that those who had chosen pharmacy as a means of living should not willingly associate themselves with those who had so effectually conserved its interests, and raised it into a dignified position. The surprise will not alter the circumstance, which is patent, undeniable, and on official record. There is not an apprentice, a Minor or a Major man, who is not benefited directly and indirectly by the existence of the Pharmaceutical Society.

It has been the means of drawing attention to the fact that so long as he was content with such training as he could snatch behind the counter, it was hopeless for him to be placed on a level with pharmacists throughout the Continent, either as regards intellectual acquirement or social status. It drew the attention of the public to the necessity of trusting competent men to dispense dangerous remedies; and finally it aroused the Government to limit the practice of pharmacy to qualified individuals.

Now the social and intellectual battle has been won, and the man who owes all to his predecessors who laboured not for themselves but others, turns his face to the till and his back to the Society with unruffled satisfaction. Had our founders acted in this judicious manner, the individual condition of the modern pharmacist would have been in a lively state, and British pharmacy would by this time have attracted the contempt of Europe.

We are not disposed to lament over this untoward aspect of affairs. What have our representatives advised? Mr. Bottle thought that it was a matter for serious consideration whether the constituency from which the governing body was elected should not be enlarged—that is, yield to panic and encourage the apathy of Minor men. Mr. Hampson suggested that when the Pharmacy laws were to be reformed, it might be desirable at that juncture to review the position, and, if possible, strengthen the Society. Mr. Atkins did not know what plan to offer, but a steady and determined effort was needed to bring in some of those who were now outsiders—a statement not open to dispute. Mr. Symes had faith in a committee, and Mr. Schacht would postpone discussion.

We see but one solution out of the difficulty, namely, to clothe the Major qualification with importance by making it *ipso facto* the entrance-gate to the membership of the Society. Let the man who has passed the Major examination, and who is thereby made a pharmaceutical chemist, be by one and the same act made a member. The proceeding would remain voluntary, and the honour would be doubled, tangible, and consequential. The two titles of "Pharmaceutical Chemist" and "Member of the Pharmaceutical Society," now confused and misapprehended in public estimation, would become one. The anomaly that an examined man may separate himself from, or even be hostile to, his own Society would cease; and so great would be the advantage that we might hope to see the Minor qualification but a stepping-stone to that higher grade which would include membership amongst its privileges. The non-member, popularly called outsider, would speedily be an extinct being, like the Dodo.

JOSEPH INCE.

ARTIFICIAL PORT WINE.—Dr. Collenette, a Jersey physician of temperance principles, lately gave a lecture on the "Manufacture of Old Crusted Port." One of the audience was requested to purchase from a local wine merchant of repute a bottle of port, for which he paid six shillings This, with cobwebs, &c., was deposited on the lecturer's table. Dr. Collenette then stated he would, in the course of a few minutes, produce a similar article at a cost of *five farthings*. A judge—a gentleman said to be well qualified—was then elected by the meeting. A committee was chosen to come on to the platform and witness the operation; this consisted of weighing out ingredients. The basis of the composition was cider; bullock's blood was used for a rich tawny colour, tartaric acid to give age, cream of tartar mixed with gum water was smeared on the inside of the bottle and gave a beautiful crust. Outside, cobwebs with dust and whitewash were applied to give an ancient look, and the bottle was stoppered with a well-stained cork. The *expert* was introduced, and tasted a glass from each bottle, declaring, with a knowing wink at the audience, that the wine *à la Collenette* was the genuine article. The temperance audience of course applauded to the echo.—*Scientific American.*

The Chemists and Druggists' Trade Association of Great Britain.

A MEETING of the Executive Committee was held at the office of the Association, 23 Burlington Chambers, New Street, Birmingham, on the 8th inst. at 1 P.M. Mr. Thomas Barclay (Birmingham), President, in the chair. Mr. Robert Hampson (London), Vice-President. Present:—Messrs. Andrews (London), Arblaster (Birmingham), Barnaby (Rochester), Bell (Hull), Churchill (Birmingham), Cross (Shrewsbury), Harrison (Sunderland), Holdsworth (Birmingham), Jervis (Sheffield), Mackenzie (Edinburgh), Mason (Liverpool), Southall (Birmingham), Stead (Leeds), Williams (Manchester), and the Solicitor of the Association.

Communications were read from Messrs. Davis, Kerr, McAdam, Symes, and Walker, regretting their inabilty to attend.

The minutes of the previous meeting of this Committee were read and confirmed.

The report of the Law Committee was then read. The report stated that a member of the Association had been summoned under the Sale of Food and Drugs Act, for having sold aromatic spirit of ammonia which, it was alleged by the prosecution, was not of the nature, substance, and quality of the article demanded by the purchaser. The sample of the spirit sold had been analysed by Professor Attfield. The Committee had been unable to order a defence, as Professor Attfield's report recommended a contrary course being adopted, the preparation being weak in ammonia, and differing materially from the official standard as to specific gravity. The Committee had recommended the Pharmaceutical Council to add the following articles to Part II. of the schedule of poisons in the Pharmacy Act, viz.:—Butyr of antimony, oil of vitriol, spirit of salts, nitric acid, salts of copper, and carbolic acid.

The report of the sub-committee appointed by the Law and Parliamentary Committee to deal with urgent cases was then read. It stated that convictions had been obtained by the Association in five cases of infringements of the PharmacyAct since the last meeting of the Executive. In one of these cases—Templeman *v.* Trafford—the decision was given in an appeal to the High Court of Justice, the first hearing of the case before the Oxford magistrates having resulted in a defeat for the Association. Evidence had been collected by the Assistant-Secretary for the Pharmaceutical Society in a case under the 15th section of the Pharmacy Act, against an illegal trader residing at Chester, in which a penalty had been paid into court to settle the action. The Committee had authorised the defence of a member of the Association in an action brought against him, under the Sale of Food and Drugs Act, for the sale of arrowroot. The County Analyst had reported the article sold to be potato-starch. Professor Attfield certified it to be genuine arrowroot. An offer having been made by the prosecution to withdraw the summons, the defendant, anxious to avoid litigation, had consented to that course being adopted.

It was moved by Mr. CHURCHILL, seconded by the VICE-PRESIDENT, and unanimously resolved:—

> That the reports now read be received and entered on the minutes.

After some little discussion the reports were, by resolution, adopted.

The report of the Finance Committee was then read. It contained an interim statement of the financial affairs of the Association.

It was moved by Mr. BELL, seconded by Mr. WILLIAMS, and unanimously resolved:—

> That the report now read be received, adopted, and entered on the minutes.

It was moved by the VICE-PRESIDENT, seconded by Mr. HARRISON, and unanimously resolved:—

> That the Finance Committee be instructed to take into consideration the condition of the finances, and the advisability or otherwise of increasing the annual subscription to the Association, and that, in the event of their deciding that an increase in the amount of the subscription be advisable, they be empowered to take the necessary steps to bring the matter before the members at the next annual general meeting.

Some considerable discussion took place as to the advisability of a grant from the funds of the Association being made to two members of the Association against whom civil action had recently been brought in the County Court for the recovery of damages on the grounds that they had not shown proper care in the conduct of their respective businesses, and that the plaintiffs had suffered in consequence. It was decided to make no grant in either case.

Communications were read from members of the Association, inquiring what steps would be taken by the Association in view of the decision given by the stipendiary magistrate at the Hammersmith Police Court on January 24 in the case of Regina *v.* Harvey, and suggesting that prosecutions should be instituted by the Association against unregistered traders for selling scheduled poisons under cover of the patent medicine stamp.

It was moved by Mr. MACKENZIE, seconded by Mr. JERVIS, and unanimously resolved:—

> That the question of prosecuting unregistered traders under the 17th section of the Pharmacy Act for the sale of patent medicines containing scheduled poisons be referred to the consideration of the Law and Parliamentary Committee, with power to take such action as they deem desirable.

The PRESIDENT said that he had heard, on what he believed to be good authority, that no appeal would be entered in the case of Regina *v.* Harvey. He thought that was unfortunate, as it would have been advantageous to the trade if a decision had been obtained in the High Court on the interpretation of that portion of the Pharmacy Act raised by the case.

Several cases of alleged infringements of the 17th section of the Pharmaey Act were laid before the Committee. The Solicitor recommended a prosecution under that section against an unregistered person for having sold to the Assistant-Secretary a scheduled poison labelled with the name of a chemist carrying on business upwards of 100 miles away, the defence in which action would probably be, that the unregistered person was managing the business at which the purchase was made as a branch establishment of the registered chemist and druggist.

On the motion of Mr. STEAD, seconded by Mr. ANDREWS, the Solicitor was instructed accordingly.

It was moved by Mr. BELL, seconded by Mr. MACKENZIE, and unanimously resolved:—

> That the 6th annual general meeting of the members of the Association be held in London on the day preceding the annual general meeting of the Pharmaceutical Society, and that arrangements for the same be left in the hands of the London Committee.

Mr. ANDREWS suggested that the Secretary, when reporting their proceedings that day, should state that Mr. Glasier, who appeared for the Lynn and West Norfolk Drug and General Supply Association in the Excise prosecution recently brought against that Society, was not Mr. Glaisyer, of Birmingham, their solicitor. Although the names were spelt differently, he thought perhaps some members of the trade might be under the impression they referred to the same person, and he should not like it to be thought that the Association had anything to do with that case.

A letter was read from Mr. R. Robinson, of Rochdale, suggesting the advisability of action being taken by the Association with a view to a better understanding being, if possible, brought about between doctors and chemists, to enable the latter to secure a greater share of the dispensing of prescriptions. The Secretary was instructed to thank Mr. Robinson for this communication, and to state that the question should be submitted to the consideration of the next annual meeting, and to express the hope that he would find it convenient to be present at that meeting, and bring the matter forward by proposing a resolution thereon.

Several other communications were read from members of the Association, and instructions given to the Secretary as to the manner in which he should deal with the same.

The SECRETARY said that he had a few days previously received a cheque for 10*l.* from the president of the Sheffield Chemists' Society as a donation towards the funds of the Association.

The PRESIDENT expressed the hope that other local associations would follow the example of their Sheffield friends.

The Pharmaceutical Council.

FEBRUARY 1.

THE ordinary meeting of the Council was held under the presidency of Mr. Thos. Greenish (President).

All the other members of the Council were present except Mr. Young, who wrote saying that he should be that day attending the funeral of Sir Robert Christison, at Edinburgh.

Reporting the Proceedings.

On our representative presenting himself for admission he was informed that the matter would have to be submitted to the Council, and this having been done he was allowed to take his place.

The Ballot for Retiring Councillors

Was taken, and resulted in the following names being drawn:—Messrs. Butt, Churchill, Gostling, Greenish, Radley, Robbins, and Williams.

Messrs. Andrews, Atkins, Borland (*vice* Frazer resigned), Savage, Schacht, Squire, and Young (*vice* Mackay, deceased) retire by rotation.

Messrs. Bottle, Carteighe, Hampson, Hills, Richardson, Symes, and Woolley remain in office.

The Election of Members

And associates of the Society then took place, and the following persons were restored to the register of chemists and druggists:—William Hollis, 1 Albert Street, London Road, Burton-on-Trent; and George Frederick Townend, 10 St. Leonard's Road, Poplar, E.

Unsatisfactory Condition of the Society.

The Registrar submitted his annual report, and called attention to the fact that in the last few years the number of members has been gradually decreasing, while the general body of chemists and druggists had increased. This was an important matter; and before long would have to be seriously taken in hand by the Council.

The report showed the following results:—

Numerical Strength of the Pharmaceutical Society for the past Five Years.

	1877	1878	1879	1880	1881
Life members—					
Pharmaceutical chemists	247	243	241	237	238
Chemists and druggists	2	2	2	2	2
Subscribing members—					
Pharmaceutical chemists	1,788	1,759	1,742	1,729	1,695
Chemists and druggists	827	825	812	803	786
Associates in business	814	899	965	1,025	1,069
Associates not in business	832	808	827	840	817
Apprentices or students	1,054	1,040	1,071	1,074	1,046

The Register

showed a net increase of chemists and druggists and pharmaceutical chemists for the year of 193 persons. The total on December 31, 1881, was—Pharmaceutical chemists, 2,308; chemists and druggists, 11,347; in all, 13,655. During the year four were added by passing the Modified examination, 35 by passing the Minor, four new registrations of persons in business before August 1, 1868, and ten restorations to the register. On the other hand, 143 deaths had been reported, and seven names had been erased at the request of the registered persons themselves.

Analysis of Examinations, 1881.

	No. of Examinations	Total No. of Candidates	Total No. Passed
Preliminary	4	1,187	512
Major—London	6	100	36
Edinburgh	3	7	4
Minor—London	6	567	278
Edinburgh	5	83	47
Modified—London	6	9	3
Edinburgh	3	4	1

Mr. BOTTLE believed that it would be the duty of the Council to reconsider the manner in which those who carried on the government of the Society were elected. Many years ago he had prognosticated that if they were to adhere to the present rules the appearance of the last pharmaceutical chemist would be a mere matter of time; and in face of a yearly decreasing list of members it would be imperative to enlarge the elective body.

Mr. HAMPSON agreed that they should at the present time think the matter out thoroughly; for as they hoped and believed that an alteration would be obtained in the pharmaceutical laws, it was highly desirable that they should thoroughly inquire into the status and formation of the Society in order to avoid the possibility of being compelled to go twice, instead of once, to the Legislature. All the members of the Council were compelled to admit that they were extremely weak in members when the large number of chemists carrying on business was considered. It would be their duty to hold out some inducement to persons to join the Society—whether by a reduction in the amount of the annual subscription or by an extension of the elective powers could only be decided after careful consideration.

Mr. ATKINS pointed out that the question resolved itself into two parts, viz., the decrease in their membership and in the number of those qualifying as pharmaceutical chemists. His own opinion was that the latter was caused from the fact that the public did not recognise the difference between a pharmaceutical chemist and a member of the Society. Several suggestions had been made to remedy this, the most practical of which seemed to him to be that of conferring the title of "fellow of the Society" upon pharmaceutical chemists. With regard to the decrease of membership, that was more difficult—for unwisely and most unjustly they were regarded by pharmacists as a conservative body. He did not agree with the suggestion as to the alteration in the method of electing the Council—for he held that while there was a sufficient number of pharmaceutical chemists willing and able to perform that duty it should be entrusted to them.

Mr. SYMES suggested the consideration of the subject by a committee, and thought it would dovetail in with the work of the special committee on pharmaceutical education.

The VICE-PRESIDENT held that the best time to consider this subject would be when the Committee reported on the proposed alterations in the law. When it came on for settlement the varying claims of those who held varying qualifications would have to be fully taken into account, and perhaps the result would be the sweeping away of some of the distinctions which at present existed. As regards the administration of affairs, he did not see that the possession of high scientific qualifications was necessary to enable anyone to possess elective powers. One thing was undeniable, viz., that the number of their members was ridiculously small when compared with the general body of the trade.

Mr. BOTTLE said he was not prepared to go further with the matter; he was satisfied with having raised a discussion, and in a short time it would be necessary to deal seriously with it. (Hear, hear.)

The subject then dropped.

Finance.

The report of the Finance Committee elicited no discussion.

Benevolent Fund.

On the recommendation of the Committee, four grants of 10*l.* each were voted. An application had been received from the daughter of a deceased member, aged 36, but the opinion of the solicitor had been obtained that the benefits of the fund could not be extended to orphans of full age. The following donations were ordered to be inscribed on the Benevolent Fund Donation Board:—Mr. Robbins, 117*l.* 6*s.*; Mr. Richardson, 50*l.*; Mr. Davenport, 21*l.* On the suggestion of the President, it was resolved to enter on the minutes the letter accompanying Mr. Robbins' donation, reported last month. Mr. Robbins had increased his gift to 106*l.* 16*s.*, in order to purchase an even amount of South Metropolitan gas stock to yield 6*l.* per annum, and he desired 5*l.* to be given annually to the annuitant who had in the past the most largely contributed to the fund, and the 1*l.* to be allowed to accumulate for any emergency. He would, however, leave the Council quite free to alter the disposition of this money at any future time. He expressed a hope that a plan might be adopted to encourage well-to-do members to subscribe, granting 50*l.* a year to annuitants who had subscribed 20 guineas to the fund, and 40*l.* a year to annuitants who had subscribed 10 guineas, subject, of course, to their being elected as annuitants in the ordinary way.

The SECRETARY stated that he had received a cheque for 30 guineas from the treasurer of the Chemists' Ball Committee for the Benevolent Fund.

THE USE OF THE LIBRARY.

The Library Committee reported that during the year 1881, 3,447 persons had used the library in the day-time, or an average of 12; 1,249 had attended at night, being an average of six. The number of volumes circulated had been 3,284.

The PRESIDENT congratulated the Council upon the fact that the numbers of persons using the library had increased lately, and that the decrease which so unexplainedly took place some three years ago was now being recovered from.

GENERAL PURPOSES.

The Council went into Committee to receive this report.

LAW AND PARLIAMENTARY.

The Council then went into Committee on several recommendations of the Law and Parliamentary Committee, the principal recommendation in which was as to what poisons should be added to the second part of Schedule A of the Pharmacy Act.

After a long discussion, in which the whole of the members took part,

Mr. CARTEIGHE moved, Mr. SYMES seconded, and it was carried unanimously—

> That by virtue and in exercise of the powers vested in the Council of the Pharmaceutical Society of Great Britain, the Council does hereby resolve and declare that each of the following articles viz.—
>
> Sulphuric acid, commonly called Oil of Vitriol;
> Hydrochloric acid, commonly called Spirits of Salts;
> Nitric acid, commonly called Aqua Fortis;
> Solution of chloride of antimony, commonly called Butter of Antimony;
> Carbolic acid;
> Hellebore;
> Nux Vomica and its preparations;
> Vermin-killers containing phosphorus;
>
> —ought to be deemed a poison within the meaning of the Pharmacy Act, 1868, and ought to be deemed a poison in the second part of Schedule A of the said Pharmacy Act, 1868.

The Council then for a long time discussed several matters, our reporter, on the request of the President, withdrawing.

REPORT OF THE EXAMINERS.

The Examiners reported that 304 candidates had presented themselves for the Preliminary examination, and that 172 had failed, while 132 had passed.

PROPOSED EXHIBITION.

Dr. SYMES moved—

> That the exhibition of apparatus, chemicals, drugs, and other matters of interest to pharmacy, be held in the Society's Rooms at the annual meeting in May next.

He said that if this was an experiment he should have felt it necessary to make a long speech; but, as a matter of fact, the past had shown them that the experiment had developed into an assured success. He was not quite certain that it would be advisable to make the exhibition annual, and, as that was a moot point amongst the members of the Council, he should move his resolution in order that the matter might be thoroughly ventilated.

Mr. SAVAGE seconded for the sake of hearing the observations of the Council on this subject.

Mr. BUTT, as one who took a very deep interest in the last exhibition, could not vote for the motion, for he was well acquainted with the difficulties which they experienced in inducing people to come forward to exhibit. The Committee who had charge of the matter might have obtained any amount of quack preparations, but they declined to turn the Society into a shop, and as a consequence of all their efforts they were blamed all the way round because they did not find this, that, and the other which members expected to have found. The fact was that they were not able to offer sufficient inducement to exhibitors of novelties to come forward and entail the very large expense which was necessarily incurred by all who took part in an exhibition. He hoped that in the future, when any similar effort was undertaken, the exhibition would take place elsewhere than in the rooms of the Society, and that the rental for space and the admission fees would amount to such a sum as would be sufficient to defray the expenses.

Mr. HAMPSON, while he agreed that the last exhibition contained many interesting features, was of opinion that it would be inadvisable to make it an annual one, for they could not expect to obtain sufficient novelties in that space of time to make it attractive, and whenever they did undertake such a matter they should take care that the outcome was something worthy of the Society. (Hear, hear.) It should be thoroughly representative of pharmaceutical work and of the progress of pharmacy, and in order to secure such a result as that the effort could only be made with success occasionally; it could not possibly be repeated every year. He believed that exhibitions of this kind were of the greatest benefit to the Society, for they gave the members something to reflect upon and enabled them to see what others were doing; and, this being so, he hoped that the motion would be withdrawn, in order that they might choose a more opportune time.

Mr. ROBBINS, as one who had taken a great interest in the exhibition, was sorry to say it was not such a great success as some of the members seemed to imagine, and he felt that it would be highly inexpedient to make it an annual affair. When they remembered that many of the things in the last exhibition were of the most ordinary character, and could not possibly interest pharmacists, they were obliged to admit that a great deal of it was intended for advertising purposes, and for nothing else. He was quite willing to adopt a resolution in favour of holding an exhibition once every two or three years, but he felt that to make it annual was impossible, if they wished any good to result.

Mr. RICHARDSON said he could bear testimony to the fact that many of their provincial friends were pleased and instructed with the exhibition; and he supposed that that was due to the fact that they were not so highly skilled as Mr. Butt, with his experience in May Fair. (Laughter.) It was their duty to do all they could for their provincial members; but after the recent great representative exhibition at South Kensington—("Oh!" and "Question")—he maintained, in spite of sneers, that the South Kensington exhibition was one of the most complete that had been held; and he thought that after that they should stay their hands for a time, as they could not expect exhibitors to come forward again so quickly. He was strengthened in this opinion, as he felt that they did not wish to see at an exhibition things which they could witness every day, but rather that it should contain new apparatus suitable for pharmaceutical work, rare chemicals, and newly-discovered drugs. He should strongly support the suggestion to wait for a time.

The VICE-PRESIDENT said that the partial success which attended the exhibition induced him to continue to urge upon the Museum, Library, and House Committee the necessity of having for their museum every new appliance of utility to pharmacists. They were continually being asked to increase the library, and this policy ought to be followed out in reference to the museum. He knew that an objection was raised on the ground of want of space, but he believed that by a judicious arrangement of the articles they possessed they would be enabled to make room for much more. If this was done it would be possible for the members to keep pace with the times, and to become acquainted with all that would help them to carry on their businesses with that efficiency which the improvements of the age rendered possible.

Mr. ATKINS, as one who represented the provincials, to whom an exhibition was of great service, wished that the proposal had been to hold one triennially, and that no effort should be spared to make it a success. He should ever protest against the establishment of anything to be a mere trade advertisement, for they wanted something higher and better than that. He objected to the suggestion that the exhibition should take place anywhere else than in their rooms, for it should be their one aim to make this Society the centre around which pharmacists should gather. In their museum should be found the latest developments of

art, and in order to assist their fellows they should make of every inch of their space.

Mr. BUTT said that unless the Council were prepared give gold medals and the like, exhibitors would not come ward, as there was no inducement for them to do so.

Mr. SQUIRE was prepared to move as an amendment that exhibition be held triennially.

The PRESIDENT ruled that this would be out of order, as would bind future Councils. He said that as there had n so much difference of opinion on the subject, and as Committee had been blamed for what was done at the exhibition, it might be well to trace the history of it. culars and private letters to the number of 250 were sent in May inviting persons to send in exhibits, while ertisements were issued in which it was announced that his exhibition preference would be given to all that was st and most useful in connection with the art, and after that had been done, they, on May 1, had only received applications for space.

Mr. CARTEIGHE submitted that at this juncture it was advisable to go into the history of past exhibitions, as it had all been gone over. Besides, he understood that Symes was prepared to withdraw his resolution.

The PRESIDENT replied that he was only pointing out the iculty of getting up exhibitions of this kind, for it was y owing to the fact that a few firms were whipped up at last moment to send in exhibits that the one in question not prove a comp'ete failure. He agreed that it was ossible to hold an exhibition annually, for they could obtain sufficient novelties for it, and if it was to be pply a shop let it be done by private individuals, who uld see that the rentals defrayed the expenses.

Dr. SYMES was quite willing to withdraw his resolution favour of one to hold an exhibition every three years. denied that the last one was a failure, for at it he saw a en articles, such as fever drugs, which had before that e been unknown to him, and which had only been pro- ed as the demands of certain industries set men en- vouring to keep pace with the requirements of the times. mbers from the country found the annual meetings of Society very monotonous, and he wished to offer them e inducement to attend.

Mr. WILLIAMS thought the difficulty might be overcome inviting persons to send new inventions to be shown at annual meeting. In this way the expense of organising exhibition would be avoided.

The PRESIDENT: It would practically come to the same ng.

Mr. CARTEIGHE suggested that an amendment, to the ct that "it is inexpedient to hold an exhibition oftener n once in three years," would meet the case.

Mr. SAVAGE objected to this as a negative resolution.

Mr. ATKINS hoped it would not be taken in that sense. ar.)

Eventually the amendment was adopted unanimously the Council adjourned.

Pharmaceutical Society of Ireland.

THE monthly meeting was held at the College of Physicians, Dublin, on the 1st inst. Present: Dr. Charles R. C. borne, President; Dr. Aquilla Smith, Vice-President; ssrs. Allen, Bennett, Brunker, Dr. Collins, Doran, Draper, ndley, Hayes, Dr. Montgomery, and Simpson.

The REGISTRAR read the minutes of the last meeting, ich were confirmed.

Letters were read from Messrs. A. O'Rorke & Son, of llymena, relating to a prosecution which had been insti- ted against Mr. Beattie, of that town. It was stated that resh summons had been taken out, and that a Dr. Purdon, o had made up the prescription in question, had declined ttend to give evidence under a fee of 10*l.*

A letter was read from Mr. A. Macaulay, of Coleraine, ting that the proceedings taken there against a Mr. Baxter d resulted in the conviction of the latter and his being ed 5*l.*

The PRESIDENT mentioned that one of Messrs. O'Rorke's ters had been submitted to Mr. Brunker and himself, and they were of opinion that the production of the prescription in the prosecution was necessary. They had written declining to sanction the expenditure of 10*l.* The President read a letter which he had received from Mr. John C. Paine on the subject of the proceedings.

Mr. GRINDLEY asked, Could not the medical man who made up the prescription be subpœnaed?

The PRESIDENT: You are bound to pay him, but I don't know what the legal amount is.

On the motion of Mr. BRUNKER, seconded by Dr. COLLINS, a resolution was passed thanking Mr. Paine for his assistance in the prosecution of Mr. Baxter, and requesting him to watch the proceedings against Mr. Beattie on behalf of the Council.

The Examiners' report of the Pharmaceutical examination held on January 4 was laid on the table.

Mr. W. N. ALLEN had given notice of motion—

> That the examination for the licence of this Society be commenced at the hour of 11 o'clock A.M. on the first Tuesday in January, April, July, and October.

The PRESIDENT said the examination for the licence of the Society had been fixed for the day of the Council meeting for the purpose of enabling members of the Council who came from Belfast or elsewhere to attend both the meeting and the examination. As neither of the members of the Council from Belfast was present, he would ask Mr. Allen to postpone the consideration of his motion. It was accordingly postponed until the next meeting.

A report from the Law Committee was read.

The next business was the consideration of the following three notices of motion:—

The PRESIDENT—

> That this Society is of opinion that the Poisons Act (Ireland) requires amending, and that a Committee be appointed to consider the best mode of carrying out the views of the Society as regards that Act.

Mr. J. E. BRUNKER—

> That two years having now elapsed since the subject of amendment of the Pharmacy (Ireland) Act was brought before Government it is advisable that a deputation should wait upon the Chief Secretary to bring the matter again under his notice.

Mr. J. E. BRUNKER—

> That the present unsatisfactory state of the law relating to the sale of poisons be brought under the notice of the College of Physicians and Royal College of Surgeons with a view to obtaining their co-operation in obtaining amendments in the law.

The PRESIDENT said these notices might be discussed together. He was glad to find that, without any consultation with him, Mr. Brunker agreed with his view that it was time for the Society to move in the matter. It would be recollected that some time ago they went before the Assistant-Secretary with certain proposals to alter their Act, chiefly with a view to get power to register existing chemists and druggists in this country for the sale of poisons. By that means they would be able to determine who were fit to sell poisons, which was, in his opinion, a very important point. He believed that poison should not be sold except by persons who were qualified to do so, or who were under some restrictions. The Assistant-Secretary discussed the merits of the question with them very carefully, and their interview with him was a very important one. The question had now undoubtedly cropped up again. It had been stated by the Public Prosecutor of England in open court that the law of England was to be altered this year. That a necessity existed for restrictions in the sale of poisons was illustrated by an anecdote which was told to him by a medical man about 18 months ago. A person in the country who kept a general store in which he sold all manner of things got a prescription for pills to make up. Having only a hazy idea of the relative strengths of hydrochlorate of morphia and opium, or rather thinking that one was about the same as the other, and having in his store hydrochlorate of morphia, but no opium, he made up six pills with 3 grains of hydrochlorate of morphia instead of that quantity of opium. The medical man who wrote the prescription was a friend of his, and happened to call on him before the pills were sent out, and he thought it might be well to ask him would the

hydrochlorate of morphia do as well as the opium. The question arose, Why should such a person be allowed to compound at all, and how came he to have in his possession such a medicine as hydrochlorate of morphia? There was no doubt that the possession of such drugs was a temptation to compound. He thought a committee should draw up a report to be presented to the next meeting of the Council. Until they had that report it would be premature to discuss the subject. He also thought that the co-operation of the Apothecaries' Hall should be invited in the matter.

Mr. BRUNKER said that at the time he gave his notices of motion he was not aware that the President intended to give a notice. He (Mr. Brunker) had written a letter to the *Medical Press* on the subject, which had not yet appeared. The question of the Poisons Act was attracting a great deal of attention in England at the present moment. An important step was taken last week, which might have been taken years ago. A chemist who retailed a proprietary medicine containing poison was actually fined under the Poisons Act for doing so. That was an enormous stride in the direction of restriction upon the sale of poisons. They knew that a Poisons Act existed in England, and was carried out there. But had anyone ever heard of a single prosecution in Ireland under the Poisons Act that was passed for that country in 1862? The Act had been in existence since then, and yet there had not been the slightest interference on the part of the civil power with persons exercising the trade all over the country. It would be advisable to have a committee to consider what amendments should be made in the Poisons Act: but he thought they should also be asked to consider in what way pressure could be brought to bear upon the civil power to induce them to carry out the provisions of the law as it at present existed. They would have to show that the present law had been tried and had been found to fail before they could ask for amendments. The Chief Secretary for Ireland had left town, so that there was no chance of an interview with him; but it would be well not to lose a moment in communicating with the College of Physicians, the College of Surgeons, and the Apothecaries' Hall on the subject.

The VICE-PRESIDENT: They will not take it up unless you give them data.

Dr. COLLINS: I think either the Attorney or the Solicitor General lately prosecuted a man in the West of Ireland in a case of poisoning.

On the motion of Mr. BRUNKER, seconded by the VICE-PRESIDENT, it was resolved that a committee be appointed, consisting of Mr. Draper, Dr. Collins, and Mr. Brunker, to consider the three notices of motion and bring up a report to the next meeting of the Council.

Mr. GRINDLEY suggested that the Registrar should send out a circular inquiring after breaches of the Poisons Act.

Mr. BRUNKER: It is marvellous that there are not fatal cases every week through the country.

Dr. MONTGOMERY: Is the Poisons Act of England the same as that of this country?

PRESIDENT: They are identical; but if changes are made in that of England they may not be extended to Ireland.

VICE-PRESIDENT: They never take Ireland into consideration unless some Irish member interposes. They mind nobody's business but their own in England.

PRESIDENT: The police have been going about the different establishments in Dublin asking if they have got poisons books, and are putting the Act in force. The cause of this is the poisoning of hounds in the country, and they want to find out where the strychnine is coming from. It is curious that the first application of the Poisons Act should have been induced by the poisoning of dogs. Human beings do not appear to be of much consideration.

Mr. HAYES: Might not the committee apply to the Pharmaceutical Society of England to know if any change is to be made in the Poisons Act of that country?

The PRESIDENT: The Registrar might be instructed to do so.

The chair was then taken by Dr. Collins, the President being obliged to leave.

On the motion of Mr. HAYES, seconded by Dr. MONTGOMERY, a form of certificate for pharmaceutical chemists, recommended by a committee, was adopted.

Some financial business having been disposed of the Council adjourned.

Chemists' Assistants' Association.

THIS Association met for their annual dinner at St. James's Hall on the evening of January 25. Mr. T. Greenish, President of the Pharmaceutical Society, occupied the chair, and among other visitors present were Dr. Casson, Professor Redwood, Mr. P. L. Simmonds, Mr. C. Umney, and Messrs. Butt, Carteighe, and Robbins, members of the Pharmaceutical Council. After an excellent dinner a series of speeches, songs, and recitations occupied the evening very pleasantly until nearly midnight. Dr. Casson replied to the toast of "The Medical Profession," and hoped that the occasion would be the last or nearly the last when the "medical profession" would be separate from the pharmaceutical profession except as to duties. The toast of "The Pharmaceutical Society" was proposed by Mr. Bransome and responded to by the Chairman. Mr. Greenish, speaking of the condition of the trade and of the work of the Pharmaceutical Society, said that some people expected the Pharmaceutical Society to do everything for the trade. He remembered that it was once suggested when oil of lavender was very dear that the Pharmaceutical Council ought to see to it. The way things were regarded depended largely on the digestive organs. For his part he always tried to find a bit of sunshine. If he had been in the Ark he believed he would have discerned a bit of blue sky somewhere. The meeting of the International Pharmaceutical Congress last year in London had been a very important event for British pharmacy. He believed it was impossible to gauge the importance of the event. The great necessity for the future of pharmacy was a superior scholastic education for all entering the trade. No amount of compulsory curriculum subsequently could compensate for the absence of a sufficient early education. He thought, however, that chemists had some reason to complain that, though watched and regulated by Government, they got no protection in their trade. He believed the day could not be far distant when all business in *compounded* drugs would be confined to qualified pharmacists.

The toast of "The Chemists' Assistants' Association" was proposed by the Chairman, and replied to by Mr. Wrenn, Vice-President of the Association, who regretted the absence of the President, Mr. C. E. Stuart, B.Sc., who was then in Newcastle-on-Tyne. About 30 new members had joined them this session, making nearly 100 in all, and they hoped to attain the latter number before the session was over.

The other toasts were "The Pharmaceutical Press," proposed by Mr. Wallis, and acknowledged by the Editor of THE CHEMIST AND DRUGGIST; "The Visitors," proposed by Mr. Parkinson, and replied to by Mr. Umney; and "The Chairman," proposed by Mr. Snow.

Metropolitan Reports.

CHEMISTS' TREATMENT.—On January 10 an inquest was held in London on the body of Kate Vicary, aged four years, the child of a printer. The evidence of the mother showed that the deceased was a very weakly child, and suffered from gatherings on the fingers. She went to a chemist, who prescribed, and gave deceased medicine and a lotion, and she appeared to improve until January 6, when she was seized with a fit of vomiting, for which the chemist again prescribed. She got worse next day, and died suddenly on January 8. Mr. John Holding, a chemist, deposed that the evidence of the mother was perfectly true. He gave her a simple cooling mixture, and lanced the festered fingers. Subsequently hearing that the patient had been vomiting, he gave her some other mixture to stop it. Neither of the mixtures contained any narcotic. Dr. Whyte said death resulted from the extension of the inflammation from the finger to the armpit, causing blood-poisoning. The approach of the fatal inflammation would be heralded by the vomiting, and would have been diagnosed by a medical man. Witness knew the parents, and believed that they would have sent for him had they known how dangerous the symptoms were. The Coroner said it was a question whether parents were not sometimes lulled into a sense of

ecurity by their dealings with chemists. It seemed hard hat if a man wanted a black draught he should be comelled to go to a doctor; but he must say that a long course f treatment at the hands of a chemist was very dangerous the community. Mr. Holding said that the case seemed simple one, and he did not attend the child for a long eriod. Had he seen any danger he should have called in a octor. The jury expressed their concurrence in the remarks of the coroner, and a verdict was returned in accordance with the evidence.

THE POPLAR POISONING CASE.—The surgeon from whose ispensary morphia was sent in place of cooling powders pplied at the Thames Police Court on January 20 for dvice. In consequence of the poisoning the applicant had give his assistant notice to leave his situation. He, however, declined to go, and although the unfortunate affair ook place in November, he still held possession of the partments at the surgery. The applicant had not wished be hard with him, and had not pressed the matter; but it as getting to be very inconvenient, and he wanted to know ow he could get him out. Mr. Lushington said the fact of is having poisoned three children was certainly very good ound for his being discharged. By remaining on the remises he was trespassing. His Worship directed ergeant Gibson, the warrant officer, to go at once and see e gentleman about whom the complaint was made.

THEFTS FROM MESSRS. HERRING & CO.—On January 27 the Guildhall Police Court, George Waterman, 13, living 11a City Gardens, City Road; Walter Higgins, 18, of 137 aledonian Road; and William Jones, 20, 139 Caledonian oad, were charged, Waterman with robbing his employers, nes with inciting him to do so, and Higgins and Jones th receiving the property well knowing it to have been olen. Mr. William Cordy Herring said that he was a member of the firm of Herring & Co., wholesale druggists, 40 dersgate Street. Waterman had been in their employ and ey had missed quantities of goods. A detective was called who found that the goods were handed to Higgins and by m to Jones. Waterman confessed that he had stolen 20 ttles of essence, large and small; 10 bottles of peppermint one week; four bottles of oil of sandal-wood, and one und bottle of oil of aniseed, for which he had received gether about 5*l.* or 6*l.* from Jones. In Jones' bedroom re found 20 bottles, 12 of which contained scent. He d, "Some had come from Burgoyne's, in Coleman Street," d that he had receipts for all that he had there. Prisoners re remanded.

FATAL FIRE AT MESSRS. MORSON & SONS' WAREHOUSE. On the morning of Wednesday, January 18, the chemical rehouse of Messrs. Morson & Sons, in Southampton Row, s partially destroyed by fire, and two assistants who slept the premises lost their lives in consequence. The fire was st noticed by a cabman a little after 4 A.M. He gave tice at the Holborn fire-engine station, and engines were ickly on the spot. Great injury was done, but chiefly to e private part of the building. When at about 6 A.M. it s found possible to enter the rooms which the young men cupied, their bodies were found terribly burned. A roner's jury come to the conclusion after hearing the idence of a friend of the deceased, of the warehouseman o had locked up the premises, of a fireman, and of Dr. dwood, that death was caused by suffocation, but that ere was no evidence to show how the fire originated. The mes of the unfortunate victims were Frederic Augustus mpster, aged 28, manager of Messrs. Morson & Sons' ail shop, and Edwin Corlett, aged 26, an assistant.

A NEW SOPORIFIC.—The following is from the *Times*:—"Some time ago an Austrian chemist is said to have devised new soporific, the action of which is so rapid and powerful at a few drops of it sprinkled on the head and face will fectually stupefy a man in a few seconds and render him terly defenceless. He gave it the name of 'Bandiger,' or 'amer,' and offered the secret of its preparation for sale to he Austrian Government. But the Government has not ly refused to purchase it, but has ordered the police thorities to formally notify the inventor to discontinue s experiments, and to abstain utterly from using in any way s invention or communicating it to others, under pain of ing criminally dealt with."

Provincial Reports.

ABERDEEN.

CHEMISTS AND DRUGGISTS' ASSOCIATION.

THE annual conversazione in connection with this Society was held in St. Katharine's Hall on February 7. There were about 200 present. The proceedings were commenced by an address by the Chairman, Mr. Presslie, the president, who said with reference to the Society, that the beginning of the present year found them in considerable difficulty concerning the continuation of evening classes for their apprentices and assistants, which had formerly been conducted by Messrs. Strachan and Gordon, but owing to some changes in the management of Gordon's Hospital they had been enabled once more to set their classes agoing, and their Society, he was sure, was grateful to that Board for the consideration they had given their petition. But these changes were scarcely what a scientific pharmaceutical education requires, being merely subjects taught under the Science and Art Department of South Kensington. An assembly followed, and dancing was kept up with much spirit for several hours. Supper was served in the course of the evening, and during the interval a dramatic performance was given by some of the younger members of the trade. The entertainment was of a most enjoyable character.

BRISTOL.

PROFESSOR BENTLEY, on January 23, delivered an address on epiphytic and parasitic plants at the lecture theatre of the Bristol Museum and Library. Mr. G. F. Schacht was in the chair.

CARMARTHEN.

PROSECUTIONS BY THE CHEMISTS AND DRUGGISTS' TRADE ASSOCIATION.

AT the Carmarthen county petty sessions, on January 28 (before Messrs. J. L. Philipps and G. G. Philipps), Mr. G. R. Templeman, of Birmingham, assistant secretary to the Chemists and Druggists' Trade Association of Great Britain, charged Arthur Goldsmith, stationer and postmaster at Ferryside, and John Davies, of the Exchange, Llanstephan, with unlawfully selling a certain poison, namely, red oxide of mercury, or red precipitate, without the label bearing the name and address of the seller, in addition to the word "poison," as required by the law. Both defendants appeared, and admitted the offence.

Mr. Henry Glaisyer, solicitor, Birmingham, who appeared for the prosecution, said that they were constantly hearing throughout the country of poisons being sold promiscuously, and of people being able to buy poisons anywhere. Every newspaper contained murders and suicides by poisons obtained, in nine cases out of ten, from unlawful traders. Whatever the law might be in the future, it behoved them now to uphold the Act. Under the 16th section of the Pharmacy Act of 1868 persons so illegally trading were liable to a 5*l.* penalty, recovered by civil action in the County Court by the registrar of the Pharmaceutical Society. Under that section the amount was frequently paid into court, so that the advantage of publicity was lost. Therefore, action had been taken under the 17th section, which concerned the labelling of the packets, and which permitted a prosecution before justices. It was usual for defendants in such cases to plead ignorance of the law, but considering that the Act was passed in 1869, it was rather old for such a plea.

The complainant was sworn, and stated that on the 9th Jan. he visited the shops of defendants, purchased of Goldsmith one packet, and of Davies two packets of a powder labelled "Red precipitate—poison," and which he had since ascertained to be such. The labels on Davies' packets bore nothing but the words given above, but Goldsmith's label had printed upon it: "James Brigstocke, dispensing chemist, (from Kingsford & Co., Piccadilly, London), 25 King Street, Carmarthen."

The packets having, with the consent of the prosecutor, been put into the fire in the court-room,

The Chairman (addressing defendants) said the Bench would deal leniently with them because there was a possi-

bility of their having been ignorant of the law. But the indiscriminate sale of poisons was a serious matter, and must be put a stop to; therefore he hoped their case would go forth to the country, and would act as a warning to themselves and others. They must leave the sale of poisons to the chemists and druggists. Would they promise not to deal in poisons again until they were properly qualified? (Defendants: We will.) The law did not assume ignorance on the part of anyone, and they were each fined 1*l.* including costs.

GLASGOW.

Chemists and Druggists' Association.

The third meeting of the present session was held in the Andersonian College on February 1, Mr. R. McAdam (Glasgow Apothecaries' Company), President, in the chair. Mr. David Lees, Ph.C., delivered a lecture on "Evolution," as explaining the origin of plant species. Mr. Lees, after describing the precise problem which Mr. Darwin's theory sought to explain, went on to say that the terms "species" and "variety," as applied to plant forms could not bear any clear or rigid definition. Such terms, he said, were only used arbitrarily for the purpose of classification, and in reality there was no fundamental distinction between them. Mr. Lees then referred to the elasticity, or variability, that existed in all plant structures, and explained that by acting upon these variable characters by selection and cultivation man had been enabled to convert one species into a number of varieties, which often were as distinct from each other and the original stock as one species was from another. This process, the lecturer said, was done consciously by man and unconsciously by nature, and such was the necessary result for the battle for life constantly being waged in the vegetable world, those possessing strength, or in any way an advantage over their fellows, becoming the survivors, and those least adapted for the fight perishing and becoming extinct. This process, Mr. Lees thought, acting through the untold ages of the past, was sufficient to convert the few into the many forms. He contended that many forms of plant structure, such as rudimentary or abortive organs, of which illustrations were given, could not be made explicable by any other known theory. In conclusion the lecturer referred to the geological record, which, he thought, gave strong evidence that the general had always preceded the special forms, and that evolution had actually been in operation in the past. After a few remarks by the President, and Messrs. Kinninmont, Patterson, Hunter, and Walker, the lecturer was awarded a cordial vote of thanks. The desirability of having a festival in connection with the Association came up for consideration, and after considerable discussion it was allowed to stand over till next meeting.

Festival of the Glasgow Apothecaries' Company. —The annual supper and ball of the employés of the Glasgow Apothecaries' Company took place on February 23 in the City Commercial Restaurant, 42 Argyle Street, when, with a few friends, the gathering numbered 140. Dancing commenced at 8.15, and at 10 o'clock the company sat down to supper, Robert M'Adam, Esq., managing partner, in the chair, Mr. John Walker croupier. The toast list included "The Queen," by the chairman; "The Navy, Army, and Volunteers," also by the chairman, responded to by Sergeant Young. "Success to the Glasgow Apothecaries' Company" was proposed by Mr. John Fenwick, who referred to the past and happy days he had spent in the service of the company, and the pleasant business transactions he had since had with them. The Chairman briefly replied. The Croupier, in proposing "The Medical Profession," contrasted Plato's ideas as to the science and practice of medicine with the aim of the medical profession of our times. Their end and aim, he said, is the multiplying of human enjoyments by the mitigating of human sufferings, and then briefly referred to the counter-prescribing question. Dr. Lapraik, in replying, wished to see more and more of the friendly element between prescriber and dispenser. "The Ladies" was humorously proposed by Mr. Wm. Fleming, and replied to, on behalf of the ladies, by Mr. Andrew Gray; "The Guests," by Mr. A. B. Chalmers, responded to by Mr. B. F. Moise, an American druggist. After a few songs, &c., dancing was resumed, and carried on with zest to a late hour of the morning.

LIVERPOOL.

Trade Festivities. — Messrs. Ayrton & Saunders, of Liverpool, gave their annual party to their employés, numbering 200, on Friday evening, January 27. The room being tastefully decorated presented a very bright and gay appearance, and interspersed amongst the decorations were many mottoes, indicative of good feeling to the heads of the firm. During the evening several speeches were made, and many songs and recitations given. Dancing was carried on with great spirit until 8 a.m., when the party broke up, evidently delighted with their evening's amusement. The next day was observed as a holiday, the whole establishment being closed.

MANCHESTER.

Aërated-water Bottles.—The Manchester and District Mineral Water and Non-intoxicating Drink Manufacturing Mutual Protection Association, founded on December 13, has begun to justify its portentous name. A manufacturer at Salford, named Hyde, has been prosecuted under the Merchandise Marks Act for using bottles bearing the names of Messrs. Bratby & Hinchliffe. In his possession were found bottles bearing the names of about a dozen different makers, but none with his own name. He was fined 2*l.* and 1*l.* costs.

MONMOUTH.

Strange Proceedings of the Board of Guardians. —Up to within the last two months or so Mr. F. G. Prosser had held the offices of medical officer to the workhouse, vaccination officer for the Monmouth district, and also medical officer for the latter district. As medical officer for the Monmouth district Mr. Prosser was paid the modest salary of 40*l.* per annum, having to find all surgical appliances and medicines, with the exception of cod-liver oil. Mr. Prosser asked for an increase of salary of 10*l.* per annum, but his request was refused and the office was advertised, it being stated that whoever should be appointed would be appointed vaccination officer as well. The upshot was that a young practitioner from Boston, Lincolnshire, named Ricketts, was appointed, Mr. Prosser having resigned. After Mr. Ricketts had entered upon his duties he was told that the board had no power to give him the appointment of vaccination officer, but that recompense would be made to him for the disappointment. Mr. Ricketts replied that nothing but the vaccination appointment would satisfy him. The Guardians then asked Mr. Prosser to resign his other appointments, which that gentleman refused to do. Mr. Ricketts was thereupon asked to perform the duties of the district for a time on such liberal terms that he was paid no less than 87*l.* odd—a sum equal to more than two years' salary—in the short space of six weeks. Since then other gentlemen have performed the duties, the whole cost to the ratepayers for the past eight or nine weeks being about 120*l.*, or about three years' salary, in less than as many months! But the crowning absurdity has yet to be told. After spending more money in advertising, Mr. Prosser was the only applicant, and on Saturday he was unanimously elected at the salary of 50*l.* per annum, the identical sum that he had asked for, and this after a waste of over 120*l.* of the ratepayers' money!

NOTTINGHAM.

Nottingham and Notts Chemists' Association.

The annual supper in connection with this Association took place at the George Hotel on January 26, when nearly 80 members and friends sat down to an excellent repast under the presidency of Mr. R. FitzHugh, F.C.S., the vice-chairs being occupied by Mr. T. B. Fletcher and Mr. W. H. Parker. After the usual loyal toasts had been duly honoured Mr. Parker proposed "The Pharmaceutical Society of Great Britain," which was responded to by the local secretary, Mr. FitzHugh. Mr. C. L. Rothera then proposed in eulogistic terms the toast of the evening, "Success to the Nottingham and Notts Chemists' Association," pointing out the value of such an association in a social, economical, and educational point of view, and coupled with it the name of the president, who responded at some length in a well-chosen speech. Mr. J. S. Haywood next proposed "The Officers and Council," which was responded to by the secretary, Mr.

Weriner. In response to the toast of "The Medical Profession," ably proposed by Mr. C. A. Bolton, Dr. A. Claude Taylor remarked that he thought a better feeling now existed between medical men and pharmacists than had ever been the case before, each beginning to appreciate the right position of the other. Mr. Jackson then gave the toast of "The Lecturers at the usual Monthly Meetings," to which Mr. F. H. Spenser responded. Mr. R. Gibson, of Manchester, in a humourous speech, proposed "The Town and Trade of Nottingham," coupled with the name of Councillor Cleaver, who suitably responded. Mr. T. B. Fletcher proposed "The Visitors," which was responded to by Mr. Lane. The remaining toasts were "The Chairman," proposed by Mr. W. J. Rogerson, responded to by Mr. FitzHugh; "The Vice-Chairmen," proposed by Mr. Holgate and replied to by Messrs. Fletcher and Parker; and "The Ladies," proposed by Mr Middleton and responded to by Mr. F. Chater. On the suggestion of Mr. Holgate a subscription was made in the room on behalf of the Benevolent Fund of the Pharmaceutical Society, and six guineas were collected, which it was decided to vest in the name of the President of the Nottingham and Notts Chemists' Association for the time being, so as to confer life votes. During the evening the following donations and subscriptions were announced:—Messrs. Hearon, Squire & Francis, 5*l.* 5*s.*; Messrs. Sissons Bros. & Co., 2*l.* 2*s.*, as donations; and Messrs. Storry, Witty & Co., 1*l.* 1*s.*; Messrs. Okeld, Pattinson & Co., 1*l.* 1*s.*; and Mr. R. Gibson, 10*s.* 6*d.*, as annual subscriptions. A most pleasant and agreeable evening was spent, the various speeches being interspersed with songs by Messrs. Gascoigne, Matthews, and Brown, Mr. Correm presiding at the pianoforte.

ROCHDALE.

A MEETING of the Rochdale and District Chemists' Association was held on Wednesday evening, February 8, 1882, when a resolution was adopted approving of further legislation regarding the sale of drugs and pharmaceutical preparations, a copy of which was directed to be sent to the Council of the Pharmaceutical Society.

THE MICROSCOPE: HINTS TO BEGINNERS.

By Robert Aitken.

As the microscope is becoming more and more an indispensable instrument to chemists and druggists, the following hints on its use, and a description of the various methods of mounting, may be of service to those desirous of becoming familiar with such a fascinating study as that of microscopy.

One or two remarks may be first made with regard to the choice of an instrument. First, the stand or base ought to be heavy, to prevent shaking; and, secondly, the field of vision should be quite free from colour. If the microscope be not of first-class workmanship it may show a variety of colours round the edge of the field, thus rendering it useless for scientific investigation; but if a microscope is purchased from a good maker there is little danger of finding these defects. Another and very important test is its clearness of definition. This is usually tested by some special object, and a very good one is a diatom, one of those very minute vegetable organisms which require a high power to bring out the markings on the siliceous envelope.

Presuming that a satisfactory instrument has been obtained, with directions for working the accessory apparatus, I will now describe the methods of dissecting and mounting the different vegetable tissues. This branch of microscopy is chosen for several reasons, one of which is that students in botany take far more interest in vegetable histology if sections are seen with the eye, than from engravings shown in botanical works; and I therefore consider it a subject of great interest to those preparing for the examinations. Another reason is that specimens for such a study can be obtained all the year round with very little trouble.

Before proceeding, it will be necessary for the worker to have ready several glass slips with ground edges (these are to be preferred to the rough edged slips, as the latter are liable to scratch the stage of the microscope), a dozen or two thin glass circles about ¾ inch in diameter, a razor, watch glass, and several fine-pointed needles, with handles made of cedar-wood, similar to those used for camel-hair pencils. It will be found advantageous to have one or two of the needles bent a little at the tips; this can easily be done by holding one in the flame of the spirit-lamp until it is red-hot, and then bending with a pair of pliers.

The worker having got together the above requisites can now proceed with the dissection of vegetable tissues. Procure a leaf of the ordinary laurel, or one of the spotted laurel (*Aucuba japonica*); with a pair of scissors cut off a portion, insert it, edge in, into a soda-water cork, which has been previously slit with a knife at one end; then hold the cork in one hand, and with the other take the razor, dip the blade in water, and shave off several slices of cork and laurel-leaf as thin as possible. A dozen slices may be cut while one's hand is in; then float them all into a saucer half filled with water, and with a needle select what seems the thinnest section of leaf, transfer this to the centre of a glass slip, put one or two drops of water over it, and then lower a glass circle gently over this; this is done by holding the circle between the thumb and forefinger of the left hand inclined over the object, and letting it fall gently on the object with a needle held in the other hand.

Having thus temporarily mounted a section, transfer it to the stage of the microscope and first apply the 1-inch power and shallow eye-piece; this will give a general outline of the section, provided it has been cut sufficiently thin. Presuming that such has been obtained, it represents a vertical section of the laurel leaf, and will show the different-shaped cells, and their arrangement with each other. This will be better observed if the ½-inch power is used. The cells of the outer row corresponding to the upper blade of the leaf, are tabular in shape, and look not unlike bricks and mortar; below these is seen another row of cells, ovoid in shape, and placed, as it were, on end. Within these cells green granules will be observed, surrounded by a mucilaginous fluid; this is chlorophyll, the fluid being the protoplasm, which sometimes gives a dimness to the object unless it has been sufficiently washed. Occasionally a cavity or blank space will be seen in a section of the leaf, having a small opening at the top; this is an air-chamber, and the opening above is a stoma. The above section may be taken as a fair example of the parenchymatous tissue. If it be desired to mount the specimen permanently, it had better be put for the present in some preservative fluid, such as a mixture of spirit and water, and labelled what it is.

In the cells of the section just made were seen chlorophyll and protoplasm, but there is a third and very important substance present in the cells of many plants, this being starch. To observe the granules *in situ* make a thin section of a piece of raw potato, place it on a slide with a drop or two of water, cover with a circle as already described, and apply a ¼-inch power. The granules of starch will be seen lying in the cells, and showing that the potato is principally composed of this substance.

When starch granules are viewed by polarised light, on rotating the analyser of the polariscope they show a beautiful black cross: this is one of the best tests for this substance in adulterated powders.

To view the cells and stomata of the epidermis place a portion of laurel or ivy leaf in strong nitric acid to which a little water has been added; boil this in a beaker over a bunsen or on a sand-bath, and, after boiling for several minutes, the epidermis will separate as a thin skin from the remaining portion of the leaf; the contents of the beaker should then be thrown into a plateful of water, and the epidermis removed to another vessel, where it should be well washed; when thoroughly freed from the acid, cut off a small piece and place it on a slide in the usual manner, and view first with a 1-inch and then with ¼-inch power; this will give a capital view of the epidermal cells and stomata, the latter being made up of two semi-lunar cells placed together.

Spiral vessels will be found in common garden rhubarb; a good way to obtain these is to peel off a few strips from the stalk of the plant, let them macerate in water for a few days, then with the finger and thumb separate the soft portions from what seem like stout threads; take one of these, place it in a watch glass or small porcelain dish with

a little water in it, and, with a needle in each hand, gently tease out this thread. This will require a little patience, without a good supply of which no one can be a successful microscopist. After teasing it out as much as possible, select the thinnest strands and place them on a slide; examine with a pocket magnifier, and if you have separated a spiral vessel transfer it, by means of a bent needle, to another slide; place a drop of water on it and cover with a glass circle, then examine with a 1-inch power, which will show the spirals well. They are rather delicate objects, and if much meddled with will easily break. Double spirals can be seen in thin shavings of the wood of the yew-tree, but require a very high power to show well. They give great strength and elasticity to the wood; hence its use in olden times in the manufacture of bows.

Disc-bearing cells will be found in any coniferous wood—common deal or the ordinary cedar-wood of pencils. Very thin sections with the razor will show the cells without any previous treatment; a very thin shaving with a carpenter's plane is even better than one made by the razor, as the plane makes the section of a uniform thickness, which is apt not to be the case when the razor is used.

Scalariform vessels are easily found in ferns, a longitudinal section from a tree-fern giving a good specimen. By making an oblique section near the base of the stalk of the common hart's-tongue fern one will find a very good example of this kind of tissue.

Plant hairs are so common that a notice of one or two of them will be sufficient. A favourite slide among microscopists is one showing the stellate hairs of the deutzia. They are found on the surface of the leaf, and are usually shown as an opaque object under condensed light; by this is meant the shutting off of the rays of light from the reflecting mirror with the diaphragm, and throwing on the object a beam of light obtained from the side condensing lens. The column of the monadelphous stamens of the common mallow have beautiful hairs, which under polarised light are lovely objects. They are obtained by cutting away the staminal portion of the flower, and placing it longitudinally in a slit made in a small phial cork; with the razor make a very thin slice, which will most probably adhere to the blade; this must be washed off into a small saucer, and then transferred to a glass slip for examination in the usual way; if a satisfactory specimen has been obtained, it ought to be placed in a little spirit and water in a very small phial until it is required for mounting. Nux vomica seeds are covered with very fine hairs, which give them that silky appearance and feeling between the fingers; they likewise make good objects for mounting, as they show well when viewed by polarised light.

In order to observe that very interesting sight, the gyration of the cell contents, several water plants, such as chara, nitella, and anacharis, may be chosen to advantage. Anacharis is easily obtained from any canal or river; it is commonly known as water thyme, or the new river weed, and is an exceedingly quick grower, as is shown by the fact that though only introduced about 50 years ago, yet it has overrun this country and choked rivers and canals until it has become a positive nuisance. If a leaf of this plant be laid on a slide, a drop of water placed on it and covered with a circle, it will show under a $\frac{1}{4}$-inch power the circulation of the cell. Sometimes it is slow to commence, as the shock to the leaf, caused by its separation from the stem, seems to suspend the cell movement. By gently warming it over a lamp, and waiting for a few minutes, the circulation will soon be seen. Viewed by the microscope, the movement is from left to right, but as objects are reversed when seen through the instrument the movement is of course the opposite way.

Before proceeding to describe the different methods of mounting, it is necessary to call the attention of the worker to one essential, and that is, cleanliness. Every slide and cover previous to mounting must be thoroughly washed, and finally wiped dry with a piece of chamois skin or cambric handkerchief; no cloth ought to be used that gives off fluff. Moreover, when working with the instrument, care should be taken that it is done in a room where there is little dust, as this latter interferes sadly with one's operations.

Objects are mounted in various ways, as transparent objects or opaque. The transparent can be mounted in two ways, either dry or in fluid. I will begin with the transparent method, and give a list of the articles required:—Canada balsam, dammar solution, glycerine jelly, gold size, spirits of wine, oil of cloves, turpentine, and camphor water. Dammar solution is made by dissolving equal parts of gum dammar and mastic in benzole; a recipe for glycerine jelly will be found in the *Pharm. Journal*, Third Series, Vol. V. Mr. Pocklington recommends chloride of barium as a preservative, but I find carbolic acid better. Unless the student is working largely, it is better for him to purchase small bottles of these preparations, as it does not pay to make them in very small quantities. Canada balsam and dammar are the two media most used for dry objects; they answer very well for hard woods or dense tissues, as the transparency of a section is much increased, more especially by the dammar.

To mount objects with the above, make a transverse section of some root, say, sarsaparilla, using a cork for embedding the root. Having procured a section sufficiently thin, soak it in turpentine for a day, then transfer to the centre of a glass slide, which must be perfectly clean, gently warm the slide, and with a glass rod drop a small quantity of balsam or dammar over the object, taking great care not to have any air-bubbles. Having previously cleaned the glass circle by breathing on it and gently rubbing between the thumb and forefinger with a cambric handkerchief, warm it, and let it down gently on the balsam, as previously described for temporary mountings. By this method a slight wave is given to the balsam, which helps to drive out the air-bubbles. The slide should then be put aside in a warm place for a week or two, until it is thoroughly hardened, after which it should be cleaned from the superfluous medium with a penknife, and, finally, with a small rag soaked in turpentine. It may then be covered with ornamental paper, having a hole punched through the centre, or else finished with a ring of gold size run round the circle to preserve it; this ring is easily put on with a Shadbolt's turntable, which is a circular plate (usually made of metal) spinning round on a pivot, the slide being fixed with clips to the table, and, while rotating, a camel-hair pencil charged with the cement is held at one side of the circle, and in the spinning it takes on a neat circle of cement. Should air-bubbles be present in the medium, they can easily be removed before mounting by heating a needle-point and touching the bubbles; if they are detected after mounting they may disappear in the drying, but it is best to thoroughly examine the balsam before covering, and thus prevent the vexation caused by their presence.

In the above description it is recommended to make a section from the dry wood. In some cases such a section will be found, after soaking in the turpentine, to be slightly curled; it ought then to be put between two glass slips held together by a clip until quite flat, or else before making the section let it soak in water for a day or longer, according to the thickness of the wood, and then slice it; but in order to mount it in balsam it must be steeped in spirit, then in oil of cloves, then in turpentine, and lastly mounted in the balsam.

In mounting an object in fluid you have to take into consideration the nature of the substance and the suitability of the medium. The fluids used are camphor water, glycerine, and various solutions. Glycerine is not recommended for many vegetable substances, as it is liable to rupture the cell wall. I have found camphor water a very good preservative, having mounted starch granules in it about six years ago, and at the present time find them as good as when first mounted. To mount an object by this method, procure either a slide with a sunk cell, that is, the glass hollowed out in the centre (these can be had from any optician), or else make a cell with a ring of gold size, not so wide as a glass circle, on a plain slide. This is usually done by the turntable as mentioned above. After the cement is dry, the cell should be filled to overflowing with camphor water, and the object, such as a piece of cuticle, immersed in it; the cover is then to be carefully let down, taking the precaution to see that no air-bubbles have been imprisoned. The next stage is to remove the superfluous water from the sides of the cell; this is done with a little blotting-paper, taking care not to bring it too near the edge of the cell, otherwise it will draw out some of the liquid, thus causing air to enter, and necessitating remounting. Having now removed the superfluous moisture without disturbing the

cover take a camel-hair brush dipped in gold size or other cement, and paint round but not on the circle. When dry, put afresh, gradually getting nearer the cover, but always remembering to allow each coating of cement to dry; finally include the edge of the cover about the eighth of an inch, or a little less; and, in order to give neatness to the slide, a ring of some cement should be put on with the turn-table.

Mounting in glycerine jelly is much easier than the above, more like mounting in balsam, and, as it answers for many objects, and is easily worked, it is in great favour among microscopists. Make a thin longitudinal section of some soft stem, such as chickweed, wash it well, drain, transfer to a slide gently warmed, take a glass rod, dip it into melted glycerine jelly, and allow a drop or two to fall over the object until you think there is sufficient, of course looking out as before for air-bubbles; warm the glass cover and let down gently; put aside for half an hour, and it will then be ready to receive a ring of cement or paper cover.

When it is desired to mount sections of substances containing water, in balsam or dammar, the plan usually followed is to soak first in spirit, then in oil of cloves, then in turpentine, and finally in the balsam.

Some objects are mounted without any medium; they are simply fastened to the slide either with or without gum, and covered in the ordinary way. Among such may be mentioned thin shavings of deal, mahogany, elm, &c., which, of course, ought to be taken from dry, seasoned wood.

Opaque objects require the side condensing lens for their illumination. Glass slips are unnecessary; slips of wood being usually employed. Procure a piece of wood, make it of the same width and length as a glass slip, but hardly so thick; then get a piece of cardboard of moderate thickness, cut it to the same width as the slip, and about half the length; punch a hole right through, not so large as the diameter of a glass cover; gum it to the wood slip and allow it to dry. After the gum is quite dry, put into the cell now made a few drops of Brunswick black or strong ink or sepia; set aside to harden in a place free from dust, and when ready, place the object upon it; then cover with a glass circle, touched at the edges with gold size, and finish by covering with ornamental paper. If mounted on the Brunswick black it will fasten itself, as this cement gives with the weight of the object (provided it has not been dried too much); if mounted on the gum it will be necessary to breathe upon it for a few seconds, and then place the object on it. Of the two substances here mentioned Brunswick black is best, as it shows a good dark background to the object. Pollens, seeds, and hairs are often mounted in this way, more especially the two former. The pollen of the mallow is a great favourite from its pretty appearance. Seeds, if large, are best fastened with a little gum to the glass, on the underside of which a piece of dead-black paper should be pasted. If hairs are shown under condensed light, it is better to let them remain on the leaf, unless a good dark background can be given.

Where the worker is at a loss to know the proper medium in which to mount his object, his best plan is to try all the methods. By this means he finds out which is best suited for the object, as well as the knowledge it gives him for future cases of a similar nature.

Before closing, I would again caution the student in microscopy to be very scrupulous in the matter of cleanliness, both with his instrument and his tools, and not to use anything but a piece of soft and well-beaten chamois skin to clean the lenses when dimmed or soiled.

JAPANESE DRUG EXPORTS. Aniseed: 1,039 piculs of this, valued at £4,592, were exported from Hiogo, during the year 1880; 1,309 piculs were exported from Osaka, value £,443; from Kanagawa, 3,610 piculs; total, 5,958 piculs of 133 lbs. Camphor: The following quantities were exported from Japan during 1880. From Hiogo, 17,237 piculs; from Osaka, 1,618 piculs; from Kanagawa, 63½ piculs; from Nagasaki, 7,581 piculs; total, 26,499½ piculs. Peppermint oil: Exported during 1880, from Osaka, 7 piculs, value £,100; from Kanagawa, 21 piculs, value £2,829; from Nagasaki, £821 worth; total value, £4,750.

SYRUP OF HYDRIODIC ACID.

By W. GILMOUR.

AN American preparation of hydriodic acid in the form of a syrup has lately been brought under the notice of medical men and pharmacists in this country, with the recommendation that the acid "is perfectly protected against decomposition—a result never before attained." Into the composition of this particular syrup, or its preservative medium, I will not at present enter, but I wish to point out that the statement here made, as also that in the recommendatory advertisement, that "simple mixtures of hydriodic acid and syrup do not keep," are only partially correct.

Nearly 30 years ago, when this preparation was first introduced, Mr. Murdoch, of Glasgow, showed that a syrup of this acid could be kept with ordinary care for an indefinite period. This is my own experience also. With attention to the conditions afterwards to be referred to, there is less trouble from decomposition with a syrup of this acid than there is with a syrup of any of the ordinary ferrous preparations.

It will probably be remembered by many that Dr. Buchanan, who was the first to bring this acid prominently under medical notice as a therapeutic agent, recommended that it should be prepared extemporaneously by double decomposition of concentrated solutions of iodide of potassium and tartaric acid. When prepared in this way the resulting liquid is of a bright yellow colour, deepening quickly into a darker red, and giving abundant indications of the presence of free iodine within a very short time of its preparation. Mr. Murdoch attributed this rapid decomposition to contact with the air from the agitation necessary to effect separation of the bitartrate precipitate. It probably, however, admits of another explanation. Should anyone take the trouble to investigate the reaction between the two foregoing substances, they will find that the bitartrate precipitate is formed only to the extent of about one half of the theoretical quantity, and further that this is not entirely due to the solvent power of the hydriodic acid on the bitartrate precipitate, but is due also to the fact that there is not complete decomposition between the iodide of potassium and tartaric acid. In short, the phenomenon here is very similar to that quite recently pointed out as taking place in the preparation of Fothergill's hydrobromic acid. The resulting product is consequently neither uniform nor stable in its nature, so that a syrup prepared from it can scarcely be depended upon for uniformity of strength or keeping properties. Along with this there was probably one other circumstance that militated against the keeping properties of the earlier preparations, viz., their strength. If I remember rightly, the strength of the solution as proposed by Dr. Buchanan was as near as possible an equivalent of 5 grains iodine to each fluid drachm, while the syrup as proposed by Mr. Murdoch contained 2 grains iodine in the same quantity. Now it may be pointed out that the keeping properties of the syrup depend to a great extent upon these two things, namely, the acid strength of the syrup and the density of the syrup. Two ounces, for example, of an aqueous solution of the acid, containing an equivalent of 5 grains iodine to each drachm, was exposed in a capsule, and began to decompose in one or two hours' time; in 12 hours the presence of free iodine was quite visible, and in three or four days the whole of the iodine was set free. On the other hand the same quantity of a syrup of similar strength, and of density 1·320, was exposed under the same conditions, and in three or four days it had only assumed a slightly deeper straw-coloured shade. At the end of this time it had thickened considerably, owing to evaporation, and it ultimately got into a kind of pasty mass in which condition, so far as my experiments have gone, it is practically stable. A syrup of density 1·180 (about half the sugar strength of the foregoing) will slowly decompose after a few days' exposure, but the rate at which decomposition takes place will depend upon the acid strength, a stronger preparation decomposing much more quickly than a weaker. I have prepared and exposed syrups of various strengths and densities, and all the experiments tend towards the same conclusion, so that there is reason in the weaker strength of the

syrup now being advertised. Glycerine, it may be stated, has little restraining effect on the decomposition, probably owing to its hygroscopic properties.

As to the best manner of preparing the acid, I have tried nearly all the methods, and in the end have always come back to the decomposition of sulphuretted hydrogen with free iodine as represented by the following equation :—

$$2H_2S + 2I = S_2 + 4HI$$

Decomposition of iodide of barium with sulphuric acid might afford a suitable means of obtaining it, were it not for these two objections, namely, that it necessitates the personal preparation of the iodide of barium, and, second, the distillation of the product after decomposition. The methods recommended in text-books of decomposing iodide of potassium with iodine and phosphorus in the presence of a small quantity of water, or of distilling the acid from iodine and phosphorus in the presence of a large quantity of water, are both unsatisfactory. In the first case there is always more or less of an element of risk, and, moreover, the strength of the finished product requires in every case to be estimated; while the second method has always proved in my hands an admirable one for obtaining a variety of compounds of which phosphoretted hydrogen may be taken as typical. In preparing a stronger solution, say of four or five grains iodine to each drachm, by the sulphuretted hydrogen process some little difficulty may at first be experienced in effecting complete decomposition of the iodine. The iodine is not soluble to any extent in water, nor can it conveniently be kept suspended in the water so as to allow the sulphuretted hydrogen to act upon it. If put, therefore, into the bottle through which the sulphuretted hydrogen gas is being passed, it simply lies at the bottom, the particles shortly adhere and form a plastic mass; this in turn soon becomes coated with sulphur, and practically the iodine ceases to dissolve. To obviate this I take advantage of the solubility of iodine in both hydriodic acid and sulphuretted hydrogen, and instead of passing the gas *on to the iodine* I pass it *through the iodine solution*. To do this without waste, two bottles are required, the one being attached to the gas generator and the other preparing for it. The iodine (in a glass mortar) is rubbed down with the solution from the sulphuretted hydrogen generator until it is saturated, when it is again transferred to the generator and the other withdrawn from it, in turn to be saturated with the iodine. In this way the process can be carried on with the least waste either of time or material.

A NEW CONNECTION BETWEEN ANIMALS AND VEGETABLES.

"NATURE," for January 26, contains a most remarkable contribution by Mr. Patrick Geddes, which is so completely a "fairy-tale of science" that we shall only be justly cautious if we ask for confirmation before we accept it unreservedly. The last ten years has seen no more extraordinary development of our knowledge of the relations of plants and animals.

Certain marine animals called "Radiolarians" contain, in nearly all species, a variable number of "yellow cells." These are small bodies of distinctly cellular nature, with a cell wall, well-defined nucleus, and protoplasmic contents saturated by a yellow pigment. In 1871 Cienkowski noticed that these yellow cells could survive the death of the radiolarian, and even multiply. Dr. Brandt, several years later, found the yellow cells still living no less than two months after the death of the radiolarian; they even continue to live in the gelatinous investment from which the protoplasm had long since departed in the form of swarm spores. These facts seemed to point to the separate existence of the yellow cells, and these two observers concluded that they were parasitic algæ. Meanwhile attention had been called to the "pigment bodies" occurring beneath the surface of the tentacles of sea anemones. These are sometimes found outside the body of the anemone; in some species they are distributed irregularly; and they resemble the yellow cells of radiolarians. The opinion therefore arose that they also were parasitic algæ.

Many observers refused to accept the theory, but we need not trouble our readers with the discussion. Mr. Geddes went to Naples in October, hoping to set the matter at rest. He first satisfied himself that the observations of Cienkowski and Brandt were correct. He found that starch was always present with the yellow cells, and by adopting ordinary botanical precautions he proved conclusively that the cell wall is true plant cellulose, yielding a magnificent blue with iodine and sulphuric acid; the yellow colouring matter is identical with that of diatoms, and yields the same greenish residue after treatment with alcohol.

Thus, the chemical composition, structure, and mode of division of these "yellow cells" is identical with that of the unicellular algæ, and the author proposes to erect a genus to include them, with the title Philozoon.

Various species were exposed to sunlight, and the gas given off collected and analysed. It was found to contain 24 to 25 and 34 to 38 per cent. of oxygen in different cases. To prove that the evolution of oxygen was due to the algæ embedded in the animals, as large a number as possible of anemones known to contain yellow cells was exposed to sunlight side by side with others from which they are absent. The former never failed to yield abundant gas, rich in oxygen, while in the latter series not a single bubble ever appeared.

The most interesting points in the investigation appear when we consider the relation of these algæ to the animals they inhabit. The algæ are embedded in the living tissue of the radiolarian, in contact with other cells as close, and bathed with the vital fluid as completely as if animal and vegetable were parts of the same plant. The chief function of the green cells of a plant is to produce starch or food, which is shared with the colourless cells. It seems impossible to doubt that the radiolarian, which actually encloses the vegetable cell, must similarly profit by its labours. In other words, when the vegetable cell dissolves its own starch, some must needs pass out by osmose into the surrounding animal cell; and the latter possesses abundance of ferment capable of dissolving the starch. Then, too, when the Philozoon dies it is digested, thus helping to nourish the animal. Again, the animal cell is constantly producing carbonic acid and nitrogenous waste; but these are the first necessities of life to our algæ, which removes them, so performing an intracellular renal function, of course reaping an abundant reward, as its rapid rate of multiplication shows.

During sunlight the Philozoon is constantly evolving nascent oxygen directly into the surrounding animal protoplasm, and thus we have actually foreign chlorophyll performing the respiratory function of native hæmoglobin, the constituent of the blood which takes up oxygen in the lungs. It is easy to obtain direct proof of this absorption of a great part of the evolved oxygen by the animal tissues through which it has to pass. The gas evolved by a green alga in sunlight contains as much as 70 per cent. of oxygen; that evolved by brown algæ 45 per cent.; that from diatoms about 42 per cent.; that, however, obtained from the animals containing Philozoon yielded a very much lower percentage of oxygen, 24 and 34 per cent., and from the species which contains most algæ 32 to 38 per cent.

For a vegetable cell, no more ideal existence can be imagined than that within the body of an animal of sufficient active vitality to manure it with carbonic acid and nitrogen waste, yet of sufficient transparency to allow the free entrance of light. And conversely, for an animal cell there can be no more ideal than to contain a vegetable cell, constantly removing its waste products, supplying it with oxygen and starch, and being digestible after death. This association of plant and animal is by no means to be termed a case of parasitism. If so, the animals so infested would be weakened, whereas their exceptional success in the struggle for existence is evident. *Anthea cereus*, which contains most algæ, probably far outnumbers all the other species of sea anemones put together, and many other instances might be given.

MELON MANURE.—The *Moniteur des Produits Chimiques* advises melon-growers to put coffee-grounds on their melon-beds. They form a very stimulating manure, and greatly improve the flavour of the fruit.

THE IMPORTATION OF OPIUM INTO CHINA.

(Condensed from the Journal of the Statistical Society, December, 1881.)

THE following information is taken from a report published last year by Robert Hart, Inspector-General of Imperial Maritime Customs of China at Pekin last year.

About 100,000 chests of opium are annually imported into China. Each chest averages about 100 catties, the catty being equal to about $1\frac{1}{3}$ lb. avoirdupois. The importation is, therefore, equal to about 13,000,000 lbs. The opium being boiled down and prepared, loses about 30 per cent. before it is sold for smoking.

The opium pays import duty and other taxes, in all amounting to about 3 tael per catty (the tael is equal to about 6*s*).

The average smoker consumes about $\frac{6}{15}$ oz. daily, costing duty for foreign opium about $10\frac{3}{4}d$.

The native product sells for one-half the price of the foreign drug. As to the quantity of native opium produced, it is impossible to obtain reliable statistics, but assuming it to be equal in quantity to the foreign opium imported—and Mr. Hart does not believe it to exceed this—and reckoning the population of China at 300,000,000, and it is probably greater, it would appear from the average already quoted that not more than 2,000,000 of the population, that is, two-thirds of 1 per cent., are opium smokers.

The average quantity consumed is believed to be about accurate; if it is under-estimated, there is a smaller percentage of smokers; if it is over-estimated, there are more smokers, but less harm is done.

If the native production is ten times what has been calculated, the total would not suffice for the consumption of 4 per cent. of the population.

FOOTBALL.

PHARMACEUTICAL *v.* CLEVELAND.—Played at Barnes on Saturday, January 14, and resulted in a win for the 'Ceuticals by one goal to *nil*. The 'Ceutical forwards kept the ball well in their opponents' territory during the whole game; and just after half-time R. Merrett, after a splendid run, obtained a try, which he succeeded in converting into a goal. Plowman, Tupholme, Lucas, and Davis also played well for the Pharmaceutical, as did Jones and Keyes for the Cleveland. *Pharmaceutical.*—Lucas (captain), back; Cripps and R. Merrett, three-quarter backs; Tupholme, Davis, and Eidley, half backs; Plowman, Thompson, Betty, Bush, H. Merrett, Howell, Braithwaite, Job, and Gulliver, forwards.

PHARMACEUTICAL *v.* SWALLOWS.—Played at Clapham Common, and resulted in a win for the 'Ceuticals by a goal, a disputed try, and a touch, to a disputed try, a touch-in goal, and four touches to the Swallows. O'Connell, Smith, Rumbold, and Howell were in good form among the 'Ceuticals. G. Olwey and Hughes played well for the Swallows. *Pharmaceutical.*—Lucas (captain), back; O'Connell, Smith, and Rumbold, three-quarter backs; Davis and Price, half backs; Thompson, Braithwaite, Howell, Betty, Coney, Job, Badcock, Fuller, and Tupholme, forwards. The Pharmaceutical Club complain of the quarrelsome behaviour of their opponents in this game.

PHARMACEUTICAL *v.* ST. BARTHOLOMEW'S HOSPITAL, THIRD FIFTEEN.—Played at Primrose Hill on January 21, and resulted in a win for the 'Ceuticals by two goals to one try scored by the Medicals. Davis and Lucas obtained the goals and Davis kicked both goals. Dudley and Price also played well for 'Ceuticals, as did Winter and Hemmings for the Hospital." *Pharmaceutical.*—Lucas (captain), back; Cripps and Price, three-quarter backs; Dudley, Tupholme, and Davis, half-backs; Thompson, Howell, Betty, Fowler, Bovill, Braithwaite, Coney, and Evans, forwards. Both teams played one short.

THE CHEMICAL SOCIETY.

January 19.

PROFESSOR ROSCOE, President, in the chair.

The following papers were read:—

"On the Chemistry of Bast Fibres," by C. F. Cross and E. J. Bevan. In a previous paper (*Chem. Soc. Jour.* xxxviii., 666), the authors obtained from various fibres (flax, hemp, jute, manilla, esparto, &c.), by the action of chlorine a chloro-derivative of an aromatic body $n\left\{C_{19}H_{18}Cl_4O_9,\right\}$ which on treatment with sodium-sulphite develops a magnificent purple colour; they also investigated the action of various chemical agents upon jute. In the present paper they have continued their research, and give a most interesting *résumé* of their researches and the bearing thereof on the transformation of starch into the various bodies found in plants, pectose, tannin, &c. They also discuss and compare these facts with the views propounded by the vegetable physiologists, Sachs, &c. The chlorinated body mentioned above seems to resemble tetrachlorquinone. They consider that jute fibre is composed, not of cellulose, but of a series of substances which are transition products between the original carbohydrate (starch, &c.), and its ultimate modification, a soluble astringent. To these transition modifications of cellulose the authors give the generic name of bastose. This bastose, by the action of chlorine, is split up into cellulose and chlorobastin, by dilute sulphuric acid into furfurol and insoluble tannin, by decay into pectic acid and soluble tannin, with nitric acid it forms cellulose and a nitro body. The aromatic body, the chlorinated form of which is produced by the action of chlorine on bastose, is named "bastin;" this, by fusion with caustic potash, gives phloroglucin and protocatechuic acid, and by chlorination chlorobastin and carbonic acid.

"On a new Apparatus for the Determination of Melting Points," by C. F. Cross and E. J. Bevan. A small thin plate of silver or iron has in it a small hole for receiving the bulb of a thermometer and a small depression for the substance. The substance is melted, and a piece of bent platinum wire, to which is attached a glass float, allowed to remain in the substance until it solidifies. The whole is then plunged under mercury, and the latter gently heated, then the substance melts, the float rises, and the thermometer is carefully observed.

"On the Action of Heat on Mercuric Chloride," by F. Carnelly. Some months ago the author stated that ice, mercuric chloride, &c., could be raised many degrees above their ordinary melting points if heated in a vacuum. He has reinvestigated the question by determining the actual temperature of mercuric choride, apparently raised above its melting point, by dropping the substance, when heated, into calorimeters containing turpentine, benzene, and petroleum. The turpentine gave erroneous results, but the experiments with benzene and petroleum proved that the temperature of the mercuric chloride was not above its ordinary melting point.

"Contributions to the History of Cerium Compounds, including the analysis of Rhabdophane, a new British Mineral containing Cerium, Lanthanum, Didymium, and Yttrium," by W. N. Hartley.

"On the Reaction of Chromic Anhydride with Sulphuric Acid," by C. F. Cross and A. Higgin.

"On Dibenzoyl Anilin and its Isomerides," by A. Higgin.

February 2.

PROFESSOR A. W. WILLIAMSON in the chair.

Dr. Odling delivered a lecture "On the Unit Weight and Mode of Constitution of Compounds." The lecturer had originally proposed to bring forward three questions for discussion and consideration. (1) Is there any satisfactory evidence deducible of the existence of two distinct forms of chemical combination—atomic and molecular? (2) Is the determination of the vapour density of a body alone sufficient to determine the weight of the original molecule? (3) In the case of an element forming two or more distinct series of compounds, *e.g.*, ferrous and ferric salts, is the transition from one series to another necessarily connected with the subtraction of an even number of hydrogenoid atoms? The lecturer limited himself to a great extent to the first ques-

tion, touching incidentally on the third, and omitting the second altogether. A large portion of the lecture was occupied with a consideration of the valency or acidity of the elements, and the effect thereon of the other elements in the molecule. From various considerations the lecturer concluded that there is no evidence founded on fact to show that there is any difference between atomic and so-called molecular combination, but that the one passes imperceptibly into the other. There is also no necessary connection between the valency of an element and its chemical condition in forming two series of compounds; thus tin in the stannous compounds is not necessarily a dyad. The lecturer also devoted some time to the consideration of chemical formulæ, and especially to the use of condensed or contracted formulæ.

MISCELLANEOUS FORMULÆ.

POMMADE GLACIALE.—Crystalline Pomade.—

	Parts.
Finest olive oil	2,500
Spermaceti	550
Oil of bergamot	50
„ neroli	10
„ cloves	30
„ oranges	50

Ph. Zeit. f. Russl.

HAIR TONIC.—J. M. Frey, in *Medical Brief*, says he has used the following successfully for falling hair after fevers. It was suggested by Professor Goodman:—

Zinci sulph.	10 gr.
Quiniæ sulph.	20 gr.
Tinct. cantharides	1 oz.
Bay rum	2 oz.
Glycerine	2 oz.
Water	2 oz.

M. sol. sig.: To be brushed or rubbed into scalp, with much gentle shampooing.

NON-INFLAMMABLE MATERIALS.—For diminishing the danger of conflagration in theatres, Signor Giovanni Abelo Martini recommends the following formulæ for rendering materials non-inflammable in the three different cases below:—

1. Mixture suitable for light tissues:—

	Parts
Pure sulphate of ammonia	8
Pure carbonate of ammonia	2½
Boracic acid	3
Starch, dextrine, or gelatine	2
Water	100

2. Mixture suitable for scenes already painted, timberwork, furniture, doors, and windows, to be applied like paint with a brush, at a temperature of about 140° Fah.:—

	Parts
Hydrochlorate of ammonia	15
Boracic acid	5
Glue	50
Gelatine	1
Water	100

3. Mixture suitable for cloths, ropes, and straw, which should be immersed for 15 or 20 minutes, at a temperature of 212° Fah., and allowed to dry:—

	Parts
Hydrochlorate of ammonia	15
Boracic acid	6
Borax	3
Water	100

LE TORD BOYAUX, manufactured by Guérard & Co., Paris, a non-poisonous rat-killer, much advertised on both sides of the Rhine, is composed of powdered squill, 40 parts; and tallow, coloured brown, 60 parts. The inventor states that his article is made from the fresh bulbs of the Algerian plant, Alaschil-bessal-onsol. He would have been better understood if he had printed instead of the Arabic the better-known name "Scilla maritima."—*Pharm. Centralhalle.*

POISONOUS PATENT MEDICINES.

ON January 24, 1882, at the Hammersmith Police Court, George Harvey, chemist, 45 High Street, Kensington, was charged with having on January 3 sold a bottle of "Hunter's Solution of Chloral" without attaching to the same a label bearing the word "poison."

Inspector Henry Jones was the nominal prosecutor, but Mr. Poland appeared in the case for the Public Prosecutor. Mr. Besley appeared for the defence.

Mr. Poland explained that Mr. Harvey was the proprietor of "Hunter's Solution of Chloral," and that that medicine being an aqueous solution of chloral hydrate was a poison within the meaning of the Pharmacy Act of 1868, and ought to be labelled "poison" as required by the 17th section of the Act. The learned counsel explained the Act and how chloral hydrate became added to the schedule, and then went on to say that this solution of chloral contained 264 grains in the larger bottles and 88 grains in the small bottles. It was undoubtedly a poison, 30 grains having proved fatal, though people had been known to recover from a dose of 180 grains. He understood that the other side would contend that this preparation being a patent medicine the Act did not apply to it. He then read over some of the sections of the Act up to section 15, in order to show what the exemptions in section 16 referred to. That section provided that "nothing hereinbefore contained" should extend to or interfere with the trade in patent medicines, among other matters. But he contended that section 17 was general in its terms and required that all articles containing poison should be labelled "poison."

Inspector Kents proved the purchase of two bottles of the preparation from Mr. Harvey, and Inspector Jones proved receiving them and handing them to Dr. Dupré for analysis.

Dr. Dupré had analysed the contents of the bottles, and had found the proportions of chloral hydrate as stated by Mr. Poland. It was on record that 30 grains had caused death, and there had been several fatal cases after doses of 38 grains. This solution contained about 22 grains in a teaspoonful. Cross-examined by Mr. Besley, he said he did not know whether Powell's balsam contained aniseed. He believed there were patent medicines which contained preparations of opium and poppies. He did not know that there were thousands of patent medicine vendors stationers and not chemists.

Mr. Besley, on behalf of the defendant, urged that the Pharmaceutical Society and everyone connected with the trade had always assumed that patent medicines were entirely excluded from the Act. He argued that the effect of section 16 was to remove patent medicines from the Act altogether.

The Magistrate said he should decide against the defendant, as he was satisfied by the medical evidence that the article was a poison. He would impose a penalty of 40*s.* and 2*s.* costs.

The defendant gave notice of appeal.

COUNTER PRACTICE.

REMARKABLE TRIAL FOR LANCING A FINGER.

AT the Kidderminster County Court on January 18, 1882, before Sir Rupert Kettle, judge, Thomas William Grove, of Coventry Street, Kidderminster, chemist and druggist, appeared to answer a claim for damages brought at the instance of Walter White, a confectioner residing in the same town.

Mr. Hugo Young, instructed by Messrs. Ivens and Morton appeared for the plaintiff, and Mr. Jesse Herbert, instructed by Mr. Whitcombe, was for the defendant.

The particulars of claim were as follows:—"The plaintiff claims these damages for that the defendant professed to have knowledge and skill as a surgeon and medical practitioner, and as such undertook to treat the plaintiff properly and skilfully; and thereupon the plaintiff employed the defendant, at his request, and for reward, to bestow care, diligence, and skill in and about endeavouring to cure the plaintiff of a certain affection of the hand. But the defendant had no such knowledge or skill as he professed, and was not a qualified surgeon or medical practitioner, but rashly and negligently undertook to treat the plaintiff, and in so treating him conducted himself so carelessly, negligently, ignorantly, and unskilfully, that by reason thereof the plaintiff was seriously injured in health, and was caused great pain and suffering, and had to have one finger amputated, and incurred large expenses for medical and surgical treatment and nursing, and was prevented from attending to his business, and had to pay for assistance therein, and has been permanently disabled. The plaintiff claims 50*l*."

Mr. Hugo Young, in opening the case for the prosecution, said it was a case in which he thought there was very good cause of action, and it clearly exemplified the wisdom of the old adage one often heard, that a little knowledge was a very dangerous thing. The action was brought against the defendant, a chemist in the town, for ignorance in professing to treat the plaintiff who had a had finger. The defendant undertook to treat the finger as if he had been a surgeon, and he treated it so negligently and carelessly that it swelled, mortified, and eventually had to be amputated, and the plaintiff, consequently, to a great extent, had lost the use of his right hand for life. The defendant was an ordinary chemist and druggist, with no surgical qualifications whatever, yet he held himself out as a person competent to treat surgical cases, and the plaintiff went to him for advice on the treatment of an affection on the inside of the first finger of his right hand, which he thought was a little gathering, but which a surgeon would have at once recognised as something far more dangerous. Dr. Spofforth would tell them it was what is known as a whitlow. This finger was shown to the defendant, and he was asked by the plaintiff if it was anything serious, and whether he had better show it to a doctor. The defendant said, "There is no necessity for you to go to a doctor: I have often cured worse fingers than that. I was once an assistant to a surgeon myself, and I can cure it for you in a few days." He lanced it for him several times transversely, instead of longitudinally, as a surgeon would have lanced it, and, consequently, a flow of blood was the only result, instead of matter being removed and the finger relieved. He directed the plaintiff to bathe and poultice it, and come again on the following day. On the following day he again gave him some directions as to poulticing the finger, and on the next day, the Wednesday, he lanced it again, twice on that occasion. Thursday plaintiff did not go to the shop, but on Friday he went again, when the hand was much discoloured and swollen, and the plaintiff again asked if he had not better see a medical man, as his wife wished him to do so. Defendant said that was an old woman's tale. On October 17 plaintiff went and consulted Dr. Spofforth, who at once told him his hand had been treated most improperly, that the finger was mortifying, and that the seat of the injury had not been touched. He lanced the hand in a proper manner longitudinally, and told plaintiff he would in all probability lose his finger. The man, not liking to lose his finger, consulted another doctor, Mr. Addenbrook. He confirmed Dr. Spofforth's opinion, and since the removal of the finger, which operation became absolutely necessary, it has been found that their views have been fully confirmed as to the improper treatment and defective and useless system of lancing practised by the defendant. The plaintiff's health has been seriously injured, he has been caused great pain and suffering, he has lost his finger—the forefinger, it must be remembered, of his right hand—he has incurred considerable expense for professional attendance and treatment, and for nursing, and during the whole time his business has been managed by an assistant, whose services of course he has paid. There could be no doubt, he imagined, as to his client's legal right to heavy damages. The learned counsel proceeded to argue at considerable length, quoting several cases—Jones *v.* Fay, Ruddock *v.* Low, amongst others—to show that it had been repeatedly laid down that if a person not being a duly-qualified medical practitioner or surgeon held himself out as such, or assumed to practise or treat another as such, he is amenable to the law.

Walter White deposed: The first finger of my right hand became bad in October last. There was a small white spot between the joints on the 10th of that month. I went to the shop of the defendant, who is a chemist, and told him I had something the matter with my finger. He looked at it, and said, "It is nothing much: only a gathering." He then pulled my hand across the counter, and took a lance out of his waistcoat-pocket and lanced it. He said, "I shall have to lance it again, your skin is so thick." He lanced it across the finger, and he told me to bathe and poultice it and come to see him again on the next day. During the time he was looking at my finger he said he had been a surgeon on board ship, and that he had cured many a worse gathering than mine. I said, "If it is anything dangerous I should like to see a doctor." He said, "There is no reason for you to go to a doctor," and he again said he had treated worse fingers than mine and got them right again. He put me a pound of linseed meal up, with which I was to poultice it. He said I had better pay for that, and he would make out a bill for attending to my finger when he had cured it. When I got home I bathed my finger in water and poulticed it. It bled very much. The water in which I bathed it was all blood. I went to the defendant again the following morning. He looked at my hand and said I must keep on bathing and poulticing it. I went again to him on the Wednesday; my hand was then very much swollen, very painful, and seemed to be getting black. I asked him if he was sure it was only a gathering, as it was so painful. He said that was all, and that it would soon come down. He then lanced it again straight along the finger, not across, as at first: he cut it twice on that day. He lanced it four times in all. On Friday the 14th I went to him again, my hand being dreadfully bad and swollen, and I told him my wife wished me to go to a doctor. He said that was an old woman's tale; he knew more than the doctors knew. He did nothing to my hand on that day. On the Saturday I called and saw him, and said I was going to see a doctor. He said, "Please yourself: I can cure your hand if you only stay with me." When I saw him in his shop he was always alone, except on the Saturday, when his wife was there. I went to Dr. Spofforth's on the following Monday, and he lanced my finger right straight up, and some time afterwards I was obliged to have my finger removed. While I was laid up I could not attend to my business. Dr. Spofforth's bill was 8*l*. 15*s*. 6*d*., and Mr. Addenbrook's bill was a guinea. I do not know if Dr. Spofforth has any further bill against me. I have also paid a man a pound a week for the last three months for helping me in my trade; this man was not in my employ before, but whilst I was laid up. I could not attend to my business, so had to engage this extra man.

Cross-examined by Mr. Jesse Herbert: I am a confectioner by trade, but I do not practise that trade now, as I am laid up and cannot attend to it now. I am doing something, but not much. I am looking after my business as far as I can. I am able to get about now. I was in bed for a week after my finger was taken off. I have no shop. I am a confectioner, wholesale and retail, but I live in a private house. I had been to Mr. Grove's shop once or twice before my hand was bad. I knew him by sight, and he knew me. I am not sure if he called me by my name. I first saw him about my finger on October 10 last year. I first felt my hand had on Saturday, the 8th. I am sure it was not October 4 that I went to the defendant first about my hand. I held my hand across the counter, and he looked at it. It is an ordinary counter, with glass cases upon it, in the shop. I told him there was a white spot on my hand, and that it was very bad, but I did not tell him how it came there: I did not know. I did not say it had been poisoned. Nothing was said about it being poisoned by either of us. I told him my hand was first had on the Saturday. I am sure I did not tell him that it had been had a fortnight. I did not say I had left it so long unattended to because I had no one to do my work for me. I am quite sure of that. On the Friday I said I did not know who I should get to do my work. He did not recommend me to have a rest. I asked him if I had not better see a doctor; he never mentioned a doctor to me. I am sure of that. He never recommended me to go to a doctor. That I will swear. I did not tell

defendant which medical man I was going to. I did not say I could not afford to go to a medical man or I should see one, because I should not have stood at a few shillings or a pound to get my hand well. He did not recommend me to lie up and see a doctor at once. I will swear he did not say any such thing. No one was present in the shop, except on the Saturday. Nothing was said about my going to the infirmary by either of us. I have never heard anything about the infirmary in connection with the matter until now. I did not say I could not afford to go to a doctor as trade had been so bad. He did not say if I could not afford to go to a doctor there was the infirmary. I know nothing of the infirmary. I know there is such a place as the infirmary, but I have never expressed an opinion about liking it or disliking it. I never told anyone I disliked it, and would not go there. I was in the shop the first day about 10 minutes. He cut into my finger twice on that day—both times across the finger. He took the lancet from his pocket. There was no bandage round my finger but my handkerchief. He brought no basin or water when he lanced it. He did it over a white napkin or towel, which he drew across the counter. There was no bowl nor any water. He did not give me any wrapper or bandage to put on after he lanced it. My handkerchief was very bloody. There is a room at the back of the shop, but I do not know much about it. I was never in it. There is a passage between this room and the shop. You can see from the shop into this room when the doors are open. After my hand was lanced I bought some linseed meal. I paid 6*d.* a pound for it. It was the first time I went to him. He said my skin was very thick. I have talked the matter over with my solicitor and doctor. Just before I had my finger off I went to Mr. Grove, but I did not ask him for any compensation. I did not suggest anything of the sort to him. I said I had been to two doctors, and they said my finger would have to come off. He said it was nothing to do with him: it was all through my having poisoned it with ultramarine blue. I do not know anything about ultramarine blue. I do not know if it is used to colour sweets. I never used it. I went to Mr. Grove that day because Dr. Spofforth suggested that I should go. I may have mentioned Dr. Spofforth's name to Mr. Grove: I do not recollect. I have not applied to Mr. Grove for his bill, but am expecting it every day. I do not recollect speaking to a man named Meore either before or after the amputation of the finger. I will swear I never said I could not afford to pay a medical man.

By Mr. Hugo Young: My brother is paid 1*l.* a week. I saw on one occasion a lady in defendant's shop. I do not know if it was Mrs. Grove. I did not see the door of the sitting-room the first time, but I saw it the second.

Dr. Spofforth deposed: I am a member of the Royal College of Surgeons. I was first consulted on October 17. Plaintiff was suffering from a deep-seated suppuration under the sheath, or tendon, of the first finger of the right hand. It was very much swollen, extending to the back and palm of the hand; one part of the finger was cut transversely. He complained of pain in the arm; there was no swelling beyond the wrist; the second joint of the finger was loose, conveying to my mind it had been caused through pressure due to deep-seated suppuration, thereby cutting off the supply of blood to the joint. It should have been incised down to the bone immediately, so as to cut the sheath of the tendon. (Witness here described the operation.) I think if it had been properly treated at first the plaintiff's finger might have been saved. If treated in an improper manner the cut might have severed the blood-vessels. I told him the first time I saw him if it had been deeply lanced at first the joint would not have gone. I consider the treatment of defendant improper, as it would give no relief to the pus. If a man came to a surgeon with a spot on his finger he would be able to say whether it should be lanced superficially or deep down; any surgeon would know this who knew his business. A druggist probably would not understand it. I did not see Dr. Addenbrook until November 10. I was afraid he (the plaintiff) would lose his hand, so treated him to save it. The finger was hopelessly gone when I first saw it. I removed his finger after consultation with Dr. Addenbrook, who entirely concurred in my opinion. I examined the finger after its removal, and found the second joint and tendon sloughed away. My charges are 8*l.* 15*s.* 6*d.* I have no further charges, except my expenses to-day.

In reply to a question from the Judge, witness said plaintiff was in other respects in perfect health, except such weakness as would be caused by the pain, &c.; he had no constitutional disease.

Cross examined by Mr. Jesse Herbert: Plaintiff could work now, but not much. The parts will be firmer by a longer rest. The finger was amputated on November 13. The first time I saw him was on October 17; I saw it was hopelessly gone, and wanted to save part of hand. It would do him no harm remaining on during that time: it would have no influence on the palm of his hand, and I was not sure of saving the hand. I sent him to Dr. Addenbrook to see his finger, and he confirmed my opinion. I could not tell what would be its previous appearance. It was what is called a whitlow. There are two kinds—deep and superficial. Both appear similar at first; a spot is not necessary. To incise superficial whitlows and foment with hot water are simple, obvious remedies. The difference between deep-seated and superficial might not easily be told by a less-experienced person; both give pain. I would incise till I found matter. I do not call it an experiment; I call it surgery. I should make a small cut deeper and deeper until I forced matter from the part. An ordinary person could not distinguish between a deep and superficial whitlow. If it had been deeply lanced at first I do not think the joint would have gone. I could not say that the treatment of Mr. Grove caused that. I did not say to anyone that it was Mr. Grove's fault. I do not remember—in fact, I feel quite sure I have not said that Mr. Grove's treatment caused the loss of the finger. I cannot say the treatment of Mr. Grove caused the loss of the finger. I could not tell if there was more than one cut; it was not deep enough to let out the pus.

Dr. Addenbrook said he could simply corroborate Dr. Spofforth's statement. No questions asked.

Mr. White, brother to the plaintiff, examined by Mr. Hugo Young: Did not remember the date when he first saw Mr. Spofforth. Plaintiff had complained for more than a week before. He (witness) saw it was cut on Monday, before noon—say, between 10 and 12. He first complained on the Saturday previous to the Monday when he saw it cut. Witness saw it on Wednesday, and it was lanced. He left a situation in Birmingham to assist plaintiff in October last, and was receiving 1*l.* per week and food. Mrs. White paid him by instalments—5*s.* or 10*s.*, as he wanted. Left all to her; kept no account against her.

This was the case for the plaintiff.

Mr. Herbert then addressed the Court for the defence. He admitted that if the Court accepted the plaintiff's statement and relied upon it, and came to the conclusion that there was an undertaking on the part of the defendant to treat the plaintiff for reward, and then treated him improperly and unskilfully, the plaintiff's claim could not be resisted. Unless he was misinstructed, he should prove to the contrary; he should clearly establish that what was done was not done for reward, or with the hope of reward in any form, and that it was entirely gratuitous service. He would prove most conclusively that nothing was said by the defendant about sending in his bill at the end of the case. All he received or had any intention of receiving from the plaintiff was 1*s.* 3*d.*, the amount paid for linseed meal. The evidence of the defendant would be supported by that of a young lady, who was in the sitting-room and heard the whole of the conversation which took place on two occasions, and the Court would hear that repeatedly the defendant advised the man to consult a doctor, but he replied that he could not afford it, and, acting the part of a good samaritan, he yielded to the pressure put on him by the plaintiff, and on one occasion did lance the finger. It was, however, quite untrue, as stated by the plaintiff, that he kept the lancet in his waistcoat pocket. If he proved those things there could clearly have been no undertaking to cure the plaintiff, and no undertaking to treat for a reward. Those two points must be proved before a verdict could be given against his client. Even supposing that defendant did what he had done for the sake of reward, it had been admitted by Mr. Spofforth that it was difficult to distinguish between a deep-seated and a superficial whitlow, and he would submit that his client had properly treated the case for the purpose of relieving the suffering of the man. He would contend that if a man employed a person whom he knew was not a surgeon he must

take the responsibility of the employer who employed an incompetent person to perform the duties required of him. The learned counsel here quoted cases in favour of his argument.

The Judge said that if he found that the defendant did undertake the case for reward, before he found a judgment for the plaintiff he must find that the defendant had been guilty of gross negligence or want of skill in relation to his position as a chemist.

The defendant then called and examined by Mr. Herbert, said he had been in business at Kidderminster 21 years. He did not tell the plaintiff he had been in business 15 years. Plaintiff came to his shop on October 4 last. He had his hand wrapped up and asked witness to look at it. He told the man that it was a very bad hand. He said he thought he had poisoned it. Witness asked if he had anyone to work for him, as his hand would be bad some time, and recommended him to see a surgeon, as the finger required deeply lancing from its appearance. He said he could not afford to pay a surgeon. Witness then recommended him to go to the infirmary, where he could have the benefit of the whole medical staff. He declined to go to the infirmary, as he did not like it. As he refused either to go to the infirmary or see a doctor, witness told him to go home and foment it well with hot water, and apply a linseed poultice. Supplied ½ lb. linseed meal, for which he paid 3*d*. Did not lance it that day: it was quite untrue if the plaintiff said he did. Did not tell the plaintiff that he had no need to see a doctor, neither did he say a word about bill or payment. Had not sent in any bill and did not intend to do so. Saw him the following day. Plaintiff took his hand out of a wrapper and said he had been in such pain all night that rather than pass another such night he would run a needle into it or chop it off. He then asked witness to cut it. Witness told him that he did not profess surgery. He then said, Just nick it; I think it would give it ease." Witness continued: I hesitated for some moments, but he very much pressed me, and I said, "Out of charity I will do so; but it will do you no good." I went to another room and fetched a lancet, and just nicked the skin longitudinally. I told him I could not go any farther, and told him again that he had better see a medical man. This he still refused to do, stating that he could not afford to pay one. I then told him to continue to poultice the finger with linseed meal so as to reduce the swelling and inflammation. He took some linseed meal away with him. On the following day he called to show me his hand. It appeared better, and the swelling was reduced; he said it felt a great deal better. On November 10 plaintiff called at my shop, when he said he had seen Mr. O. Pemberton, of Birmingham, to whom he had paid a guinea; he also stated that he had seen two other physicians, and asked their names. He replied, "You will hear by-and-by." Nothing was said about payment. I said, "I am sorry for you." What I did for the plaintiff was done out of pure charity. The total amount I received was 1*s*. 3*d*., for 2½ lbs. linseed meal.

Cross-examined by Mr. Young: I have never practised as assistant-surgeon, but was acting assistant-surgeon on board H.M. *Atalanta*. I have never communicated that fact to the plaintiff. I do not remember having treated a butcher's slaughterman's finger, which eventually was amputated at the infirmary. I have extracted teeth, but never perform surgical operations. I have told people what was the best remedy in simple cases.

Judge: But in this case you both prescribed and operated, and the contention is that you did it for gain.

By Mr. Hugo Young: I saw at once the man was suffering from a deep-seated whitlow. I did not cut the finger transversely; and if it was done in that manner it must have been done by someone else. I will not swear that I have not carried a lancet in my waistcoat pocket, but not for more than 12 months. I cannot say why I ever carried one, unless to prevent it from becoming rusty. My reason for lancing the finger was because plaintiff pressed me so much that I did it to satisfy him. There was no bleeding after the incision, and that was the only cut I administered. When the plaintiff came the last time there was no discoloration, and he stated that his hand was better.

Re-examined by Mr. Herbert: A week and several days must have elapsed from the time plaintiff last came to my shop and his going to see Mr. Spofforth.

Miss Rebecca Arthur, niece to defendant, was then submitted to a severe cross-examination as to the dates on which plaintiff visited defendant's shop. She swore most distinctly that her uncle never said that he would send in his bill when the finger was cured, but, on the contrary, that her uncle told the man it was a very bad finger, and that he strongly urged the plaintiff to see a medical man: and it was not until he had again and again repeated his statement to the effect that he was unable to pay a doctor and did not like the infirmary that the defendant consented to lance the finger.

The severe cross-examination to which this witness was subjected did not in the least alter her statement.

William Moore, of Blackwell Street, said that he had at various times seen the plaintiff with his hand in a sling and asked him how it was getting on. He stated on one occasion that he would go to Mr. Grove and get it lanced. He (the plaintiff) said he could not afford to consult a medical man, although witness strongly pressed him to do so.

That was defendant's case.

Mr. Young said an important question as to the true facts of the case was raised, as it was evident that plaintiff and defendant could not both be telling the truth.

The Judge: If I am satisfied on the question of reward it does not matter whether I believe the statement of the plaintiff or defendant.

Mr. Young contended that plaintiff's statement had been corroborated in very material points, and urged that the question of reward had been fully established. He would put it boldly to the Court, that if a chemist was in the habit of practising such operations with a view of inducing people to patronise his shop for linseed meal or other articles, and if by such operation he was able to attract custom, he was practising for reward, although he might not charge for the actual operation. The defendant had led the man to believe that by "nicking" the man's finger he would thereby do him some good, while, at the same time, he knew it would not give the man relief. All the probabilities of the case were against the defendant's statements.

Mr. Herbert said it was untrue, as sworn to by two witnesses, that the defendant would send in his bill when the finger was well, and that there was no evidence to support the contention that what the defendant did was done for reward. The defendant knew that he dare not send out a bill for such services.

The Judge: Will you suggest to me why defendant operated upon this man if not for gain?

Mr. Herbert: The defendant incised the man's finger out of pure kindness. He never intended to make any charge for what he did.

The Judge said the case had been so well ventilated that it would be useless for him to go over the evidence again. He had to decide whether there was sufficient evidence to enable him to arrive at a conclusion whether or not the defendant, in what he did for the plaintiff, laboured for reward. He held that the evidence enabled him to say that the defendant did work for reward. The defendant had, under the strain of examination and cross-examination, declared that he performed the operation out of kindness, but what he did for the man he knew could not give him any relief, therefore, there could be no charity in pretending to relieve a man. Now, as to the question of damages, if he took the mere injury that the man had suffered—the permanent loss of the first finger of the right hand, which was a serious disablement for life—he did not think that anyone in Court would hold that the full amount claimed (50*l*.) was too much for the loss sustained. On examination he found the plaintiff had been put to about 25*l*. expenses, so that would reduce the sum to be received by him to about 25*l*. His verdict would be for the whole damages the Court had power to give, viz. 50*l*. and costs.

CHARGE OF SELLING METHYLATED LAUDANUM.

Curious but Successful Defence.

On January 26, at the Lynn Petty Sessions, the Mayor presiding, Mr. R. Bishop, manager of the Lynn and West Norfolk General Supply Association, was summoned at the instance of the Inland Revenue Department for having sold, contrary to the stipulations of sec. 130 of the "Spirit Act" of 1880, a

certain drug, to wit laudanum, alleged to have been prepared with methylated spirit, the use of which for such purposes is, both by the said Act and by the previous Act of 1866, illegal; and also with having sold a pint of methylated spirit, he not having a licence to sell the latter. For the first offence a penalty of 100*l.*, and for the second a penalty of 50*l.* was claimed.

Mr. Highmore prosecuted on behalf of the Crown, the defendant being represented by Mr. Finlay, Q.C.

It was explained in support of the prosecution that methylated spirit consisted of ordinary spirit of wine mixed with one-ninth of its bulk of wood naphtha, which mixture, being non-potable, was allowed by the Legislature to pass duty free, in consideration of its employment in the arts, and for various purposes of every-day use.

It will be remembered that this case had been adjourned from last month in consequence of the Crown having sued certain individuals instead of the incorporated company.

The following evidence was taken:—

William Hitchcock, South Lynn, insurance agent, said on Friday, October 21, about seven o'clock in the evening, he met Mr. Bywater, inland reveuue officer, by appointment, and by his direction went into the defendants' shop and purchased a pint of methylated spirit for 9*d.*, 4½*d.* worth of laudanum, half-an-ounce of tobacco, and 2½*d.* worth of castor oil. The bottle in which he had the methylated spirit put was supplied to him by Mr. Bywater. The chemist did not label the bottle. Cross-examined by Mr. Fiudlay, the witness said he believed that Mr. Richard Bishop supplied him with the methylated spirit, but he was not sure of his identity.

Re examined: He would swear to the shop.

Mr. Wilkin (a magistrate): What was your motive in purchasing the spirit?—I went by appointment made with Mr. Bywater.

Mr. Wilkin: I dou't want to hear any more; it was a pious trap.

Mr. Sadler (another magistrate): That does'nt matter.

Mr. Highmore: I don't like those words. They iufer that there was unfair play; and it was not so. Mr. Bywater was the person by whom the license should have been granted, and it was not likely they would have supplied him with methylated spirit.

Mr. Wilkin: I did not mean to infer that there had been unfair play.

Mr. Wm. Bywater, officer of inlard revenue, gave corroborative evidence as to the last witness going into the defendants' shop and purchasing the spirit, while he remained outside. He then explained how he had sent portions of the artieles to London, and identified the bottles. The day after the purchasc he went in the morning to the defendants' shop, and there saw Mr. Thomas Bishop and told him what had taken place the previous evening, adding that he had no licence to sell methylated spirit. Mr. Bishop replied that the methylated spirit sold by him had been purchased from a neighbouring chemist, and sold without profit, and that he was not aware that he required a licenee to do that. Before he had called at defendant's shop he found that Mr. Richard Bishop had been to the Inland Revenue office very early that morning, between nine and ten o'clock, in order to take out a licence to sell methylated spirit—the matter had evidently got wind. He instructed him how to proceed, and a licence was granted to him on the following Monday.

Cross-examined: The reason he went to the shop was in order to ascertain the circumstances under which the sale was made, as he was required to state these in his report to the Board. Mr. Bishop told him that the methylated spirit sold the previous evening was purchased of a neighbouring chemist; he did not say that which he sold to Hitchcock, but that was understood. He said he sold the spirit without making profit, but witness had discovered that he had made a profit on it. He respectfully declined to say to which chemist he went to make inquiries: he dared not.

John Holmes, analytical chemist, from the laboratory at Somerset House, proved the specimens to have been methylated spirit.

Mr. Highmore then went into the laudanum case. He explained the course taken by the Board of Inland Revenue in permitting the use of methylated spirit under certain conditions. There were two reasons why wood naphtha was to be used, the first that it would not alter the character of the spirit of wine because of its nature, and, secondly, that it was very nauseous, and if mixed with spirits made them extremely disagreeable to the taste. It was almost impossible to separate the two spirits by any means of distillation. This Act was embodied in section 130 of the Act of 1866. Wood naphtha, if taken, produced a nauseous headache, and it was this reason which led the authorities to object to its use. He was aware that the defendant company might have incurred other penalties under the Poisons Act, but he only appeared on behalf of the Inland Revenue, which was a part of the Government, and was therefore a department not only for the protection of the revenues but for the benefit and protection of the health of the people. In conclusion the learned counsel pointed out that the witness Hitchcock purchased of the defendants 1½ oz. of laudanum for 4½*d.* whereas he stated that the price of pure spirit should have been 6*d.*

The witnesses Hitchcock and Bywater having repeated their evidence respecting the sale of laudanum, the latter testified that he had served defendants with a copy of the general orders respecting the use of methylated spirit in the preparation of tinctures on May 14 last. He said defendants sold laudanum at less than any other chemist.

Cross-examined: He had no experience of the cost of making laudanum, but had made inquiries. Mr. Bishop said the laudanum was his own mixture, and was composed of spirits of wine and wood-naphtha to suit the palates of his customers. Witness told Mr. Bishop there were two indictments laid against him. He did not ask Mr. Bishop why he had sent for a licenee at the commeneement of the conversation. He did not say he had sent his brother for a licence as he suspected a chemist in the town was trying to lay a trap for bim; he had no recollection of anything of the kind having passed. Mr. Bishop did not tell him that he only kept methylated spirits for heating purposes.

Mr. Holmes, again sworn, said he had examined the three samples of laudanum, and found all three to eontain methylated spirit. Mr. Bannister, deputy prineipal of the laboratory at Somerset House, assisted him in the analysis of the third sample. The price of laudanum was usually 6*d.* an ounce. He had heard that the 1½ oz. submitted to him were purchased for 4½*d.* Of course it could be sold more cheaply than 6*d.* an ounce if made with duty-free spirits.

Cross-examined: It was said that chemists and druggists sold their drugs, &c., at fancy prices, that they charged what they liked, but he did not know it as a fact. He had heard that the difference in the prices charged by chemists and by the Army and Navy Stores was startling, but he did not know that as a fact. Chemists who had paid more for their education would probably charge for that education. Supposing that laudanum were made with rectified spirits, and a little wood naphtha afterwards added, the results could not be distinguished in analysis from laudanum made with methylated spirit. The result would be the same.

Mr. Richard Bannister corroborated, and added that the price of spirit of wine was 24*s.* a gallon; methylated spirit only 4*s.*, and wood naphtha 8*s.* a gallon.

This concluded the ease for the prosecution.

Mr. Finlay in defence called

Richard Bishop, who said he had never, to the best of his knowledge, seen Hitchcock before in his life; he certainly never sold him any methylated spirit. He had been asked for it by different persons, but had never sold it. Witness attended to the manufae'ure of the laudanum used in their business. It was made of opium, extract of poppies, rectified spirit of wine, and water, the water being used to reduce the spirit to proof. They purchased their rectified spirit of Sir Robert Burnett & Co, and Messrs. Hill & Underwood, of Norwich, and he had the invoices with him for inspection. Having put together the elements he had described, he left it for 14 days, and then added about 10 per cent. of wood spirit, the purpose of this being that it made and kept the laudanum clear, and their customers liked it better than laudanum manufactured without the wood spirit. He was aware that the Act of Parliament prohibited the use of methylated spirit for such purposes. Laudanum was much used by many people as a dram. When the Act passed, and they made their laudanum with rectified spirit only, they found their sale decreasing, and had some laudanum returned; people did not like it. In consequence of this, they took to adding a little naphtha. They used

extract of poppies in the preparation of laudanum, and it had a tendency to thicken, which the naphtha cleared. He said upon his oath that methylated spirit had never been used on their premises since the Act passed, except for heating purposes, and a little in the making of furniture paste. The cost of making laudanum was about 1¼*d.* an oz., chemists charged pretty much what they liked.

Cross-examined: They did not buy their laudanum ready made, they did buy tincture of opium, but tincture of opium was not laudanum. Extract of poppies was obtained from a solution of the poppy capsule; opium by the exudation from an incision in the poppy. Of course he knew that methylated spirit was simply spirit of wine and wood naptha. They did not go against the law by mixing the two, they added the naphtha some time after. He knew that the laudanum he sold, or some of it, was for drinking purposes.

Re-examined: They had in October an assistant in the shop who had since left them.

Thomas Bishop corroborated his brother's evidence. The assistant had no authority to sell methylated spirit, and he was not aware of his having ever done so; if he had witness must have known, as he would have asked the price. When Mr Bywater called at the shop on the Saturday morning, he said "You have applied for a licence," and witness replied that he had. Mr. Bywater then asked why he had done so, and he replied that he had heard the previous night that a certain chemist in High Street was laying a plot with the Excise to catch him, and so he had applied for the licence.

Cross-examined: He said he had not told Mr. Bywater that the methylated spirit he "sold" he had obtained from another chemist; he told him that what they "used" they obtained from Messrs. Allen & Willis.

Messrs. Dugald Campbell and Bernard Dyer, both of London, testified that there was no means of discerning whether laudanum had been made with spirit of wine, and wood naphtha afterwards added, or whether methylated spirit had been used in the first instance. Wood naphtha exercised a clarifying influence on laudanum.

Mr. Finlay urged that the case for the prosecution was entirely annihilated by the evidence which he had brought forward.

Mr. Highmore having replied, the magistrates consulted in private, and

The Mayor said: We have weighed the evidence on both sides, and looked at it from all points of view, and really we think there is not sufficient evidence to bring the offences home to the company. We consider there is great doubt, and the cases being under a highly penal statute we are bound to give the defendants the benefit of the doubt, and upon that we rest our decision and dismiss the summonses.

Mr. Findlay applied for costs, submitting that they ought to be allowed their expenses as they had been brought up twice.

The Mayor said the defendants should be very thankful that they had got off so well, and should not ask for costs.

Mr. Highmore said his instructions were to give notice of appeal.

The Mayor said that if the Crown did that they should give the defendants costs, and the notice was then withdrawn.

PROSECUTION UNDER THE IRISH PHARMACY ACT.

The Pharmaceutical Society of Ireland *v.* W. J. Baxter, Church Street, Coleraine.*

The above case was heard at the Coleraine Petty Sessions, on Friday, January 27, 1882. The complaint was, that on October 31 last, not being licensed as a pharmaceutical chemist, he dispensed and compounded medical prescriptions and poisons, and assumed the title of pharmaceutical chemist.

Mr. H. A. Macaulay appeared for the complainants. The defendant was represented by Mr. H. W. Leech.

Mr. Macaulay said the prosecution was brought under the Pharmacy Act, 38 and 39 Vic., c. 57, which constituted the Pharmaceutical Society of Ireland. Previous to that Act it was required that a licentiate of the Apothecaries' Hall should dispense prescriptions; but owing to the difficulty arising out of the absence in some remote districts of any duly licensed apothecary, the Pharmacy Act was passed in 1875, and the Society was incorporated by that statute. This body was authorised to make certain regulations, and it was arranged that persons could sell and retail poisonous drugs, and make up prescriptions having a smaller qualification than that required by the Apothecaries Hall. The power was given by the statute to persons if they chose, by passing an examination, of not so hard and stringent a character as the Apothecaries Act, to act as pharmaceutical chemists. By the 30th section of the Act it was enacted that it should be unlawful for any person to sell, to keep open a shop for retailing, dispensing, or compounding poisonous drugs other than a licentiate of the Apothecaries' Hall, or to make up prescriptions within the meaning of the Act unless such person were registered as a pharmaceutical chemist, or a chemist and druggist. Baxter had not been duly registered as a pharmaceutical chemist, and, it was alleged, had assumed that title contrary to law. He was also charged with having compounded poisonous drugs within the meaning of the Act, not having been registered, and also with having compounded medical prescriptions. For any one of these offences the plaintiffs were entitled to ask their Worships to inflict the full penalty. The evidence would be to the effect that Mr. Baxter had an establishment in Church Street, Coleraine, on the signboard of which appears the name, W. J. Baxter. Information was conveyed to the Pharmaceutical Society concerning him, and this case was brought according to the statute. The Society sent down a man with a medical prescription to Mr. Baxter, who compounded it, and gave the man a receipt for the money paid, and thus the Society knew he was in practice. They were entitled, in respect of this and the other matters, to have the full penalty of 5*l.* enforced on Baxter. It was right to mention that Mr. Baxter's brother is a pharmaceutical chemist, and resides at Ballymoney, but, even supposing that it was advanced that a partnership did exist between the brothers, it in no way offered a defence. The prescription which had been filled was upon one given by Dr. Purdon, of Belfast.

Mr. Leech objected to the name of Dr. Purdon being introduced, unless he appeared as a witness.

The Chairman: We know all about that; we want to hear the evidence.

Mr. Macaulay: I have here Mr. Payne, a member of the Council of the Pharmaceutical Society, who will tell your Worships that this prosecution has been altogether undertaken in the interests of the public.

Mr. Hunter, J.P.: Who made out the recipe?

Mr. Macaulay: Dr. Purdon, of Belfast. I should, perhaps, also say that though this Act came into force, the 30th sect. could not be put into operation until notice had been published in the *Dublin Gazette*. That that had been done he would produce the *Gazette* in proof.

Mr. Leech: You must also show that notice of the approval of the Society has been given to the qualification.

Mr. Macaulay: That has been done, as given in the *Gazette*. The Society, it should be observed, has reserved the power to issue regulations hereafter if they think right, and give certificates of qualification for the second or lower grade of Chemist and Druggist. The Council have, in the meantime, decided to create no such qualification. Previous to the passing of the recent Act it was necessary to have a certificate from the Apothecaries' Hall to enable persons to compound poisons and make up prescriptions; the difficulties felt in country districts led to the Pharmacy Act (Mr. Macaulay read the preamble to the Act). By the Pharmacy Act a simpler mode of qualifying was now given, and yet proper precautions were taken for the safety of the public. It was now necessary to have a certificate as a "Pharmaceutical Chemist" before any person could have his house or place of business open for the sale of poisons or the compounding of medicines, or filling up of prescriptions.

Mr. Leech: I think you have in your summons not being a "Druggist or Chemist." Does not that require proof?

Mr. Macaulay: I am not in a position to prove, by a publication in the *Gazette*, that the defendant is not. The

* This report has been furnished to us by the Registrar of the Pharmaceutical Society of Ireland. We make this statement because it does not appear to us that the case for the defence is very clearly reported.

resolution in the *Gazette* deals only with those who are entitled to exercise the calling of pharmaceutical chemists. The consideration of the chemists and druggists being left over, there is no such qualification for dispensing.

The Chairman: Then shall I strike out of the summons "Chemist and Druggist?"

After some legal argument this was agreed to, and

Mr. Macaulay quoted from the recital of the Act, 1875, to show that any person, not being a pharmaceutical chemist, keeping open his shop for the sale or compounding of medical prescriptions was liable under the Act.

Mr. Taylor, J.P.: This man is summoned under a certain Act. He seems to be charged with compounding and dispensing prescriptions?

Mr. Macaulay: Yes, as a pharmaceutical chemist without the qualification.

Mr. Taylor: There is no question about that?

Mr. Macaulay: Certainly not.

Mr. Taylor: I do not think we can try Mr. Baxter as a dispensing chemist under the summons. If this resolution had not been come to by the Society there could not be any charge against him.

Mr. Macaulay: Precisely; and that resolution was passed for the protection of the public. I do not wish for a moment that it should be understood that Mr. Baxter is charged with compounding anything which would not be supposed to benefit rather than injure anybody, but the Society desire to have their own laws observed to prevent abuses.

The Chairman: What you want us to do is to say whether Mr. Baxter has a right to make up these prescriptions or not?

Mr. Taylor: We want to know whether you charge him under the Act which permits a person to compound medicines as an apothecary?

Mr. Macaulay: We do not charge him under that Act at all. What we do charge him with as an offence under the recent Act is for assuming the title of pharmaceutical chemist, and trading as such, and also for compounding and keeping open shop for these purposes.

Mr. Leech said the qualification required or at least the necessary notice prohibiting his client from acting as a druggist and chemist had not been published. If they did not choose to carry out their Act and create a qualification for chemists and druggists they should fail in the prosecution.

Mr. Macaulay replied by saying that that was optional, and read sections of the statute. The breaches were just the grounds of the prosecution.

The Chairman: We have had enough of the law; let us hear the witnesses.

Mr. John C. C. Payne, sworn and examined by Mr. Macaulay: I live in Belfast; I am a pharmacist, and am a member of the Council of the Pharmaceutical Society. You will find my name on the register. This (looking at a slip of paper) is a medical prescription. It is written by Dr. Purdon, of Belfast. I put that prescription into the hands of Andrew Downey on October 31 last. He came back to me on the evening of the same day and handed me the prescription. He also brought back those bottles (produced) by my directions. He also gave me a receipt (identified). The first bottle was labelled "Laudanum, poison, W. J. Baxter." The witness then uncorked three phials which he had got from Downey, with Mr. Baxter's labels on them. One which contained the ingredients mentioned in the prescription was labelled "Baxter, pharmaceutical chemist." The prescription was properly compounded.

The Chairman: It is just such a prescription that could be made up by anyone acquainted with the use of drugs?

Witness: Yes.

Cross-examined by Mr. Leech: I cannot say how the prescription came into the hands of the Society.

Was it for the purpose of entrapping Mr. Baxter into the commission of an illegal act, as you would assume, that the prescription was sent down to Coleraine to be filled?—I know nothing about that. From information received by the Society that Mr. Baxter was acting as a pharmaceutical chemist without the authority of the Council, I was authorised to send down a trustworthy person to Coleraine to ascertain the facts.

That throws some light upon the means that were taken to entrap Baxter. Do you know the names of the members of the Pharmaceutical Society?—Not them all; I could name a few of them.

Is David Baxter on the register as a duly-qualified chemist and druggist?—He is not, as there is no such qualification recognised yet.

The Chairman: David Baxter has nothing to do with the case.

Mr. Taylor: Are there no persons recognised by the Society as chemists and druggists?

Witness: Yes; but not as dispensers of medicines.

Mr. Leech: Is Dr. Baxter a member of the Society?—He is one of the Corporation, and is entitled to compound and dispense medicines as a pharmaceutical chemist.

By the way, how do you pronounce pharmaceutical?—I have heard it called "pharmakeuticol."

Mr. Payne: It has the same meaning how you pronounce it, either soft or hard.

Mr. Leech: For all you know the contents of that bottle in your hand may be perfectly harmless?—Yes; provided they are—as I presume they are—according to the prescription.

Can you swear positively as to what the contents of the bottle consist?—I can. (Witness then named the ingredients, none of which were poisonous, unless taken in excessive quantities.)

Andrew Downey, examined by Mr. Macaulay, deposed: I am in the employment as porter in one of Mr. Payne's establishments. I received this (identified) medical prescription from Mr. Payne on October 31. I brought it to Coleraine, and went to Mr. Baxter's, in Church Street, to get it filled. I did not at first see him in the shop, but he came in a few minutes afterwards. The name over the shop, in gilt letters, is "W. J. Baxter." When I first went into the shop I asked the young man for 1 oz. of sweet spirits of nitre, ½ oz. of laudanum, and two pennyworth of camomile flowers. When Mr. Baxter came in I presented the prescription, which was made up by Mr. Baxter. It was to him I paid the money, and it was from him I got the receipt (produced) for all. I took all the bottles back to Belfast, and gave them to Mr. Payne.

Mr. Leech: What are you?—I am a porter in the employment of Mr. Payne. It is not part of my duty to get prescriptions filled. I am not a druggist's assistant. Mr. Payne has a number of assistants, several in Belfast and two or three in Holywood. Witness read the prescription, part of which was in Latin, and said he acquired his knowledge from reading and observation.

How often did you take this prescription to other houses? To three; twice to Mr. Baxter's.

Did you not take it to another?

Mr. Macaulay objected to the name of the other being mentioned.

The Chairman: He need not answer.

Mr. Leech: Was that gentleman prosecuted by the Society?

Witness: If the Bench asks me to answer I will do so.

The Chairman: If it is to the third case, do not answer.

After consultation, the Chairman said the magistrates were of opinion that the question might be answered.

Mr. Leech: Did you or your employers not prosecute Mr. Beattie, of Ballymena, on a similar charge, and was the case not dismissed?—I believe it was, but I know nothing about it.

Mr. Taylor: Do you contend that the case against Mr. Beattie was dismissed, although he was not qualified?

Mr. Leech: I do; just as this summons against Mr. Baxter should be dismissed.

Mr. Macaulay: It was dismissed because the *Dublin Gazette* had not been received until after the case had been heard. I will now, with the permission of the Bench, read the notice.

Mr. Leech: I will not allow it to be read. (To the witness.) Did you give evidence against Mr. Beattie?—Yes.

It was on a similar charge to that brought forward in this case?—It was, I think.

What was the reason the magistrates gave for the dismissal?—They dismissed it on the grounds that the *Dublin Gazette* was not produced, and because Mr. Beattie was an old resident of the place.

You say you went into Mr. Baxter's shop; will you tell us for what purpose?—To see if this prescription would be dispensed, and to pay for it.

Were you one of Mr. Payne's accomplices?—No answer.

Did you know whether Mr. Baxter was in the shop at the time?—I did not.

Did you know that Mr. David Baxter is qualified?—I did not nor did I know whether he was there or not.

Point out the man from whom you got the receipt?—That's him (indicating the defendant).

Did you ask for the receipt?—I did; and I think it was before I got the bottles.

Did you warn Mr. Baxter that this prescription might be brought against him?—No; those were not my instructions.

When did you go back to Mr. Payne?—On the evening of the day upon which I got the bottles, and handed them over to him just as I had received them.

And did these bottles remain with Mr. Payne since you handed them to him?—I believe so.

This closed the case for the prosecution, and

Mr. Leech stated the case for the defendant. Their Worships would see from the comprehensive character of the summons that the complainants were determined to catch Mr. Baxter; the net was large enough. They would have to decide whether the terms "Chemist and Druggist" did not include pharmaceutical chemist, which he held they did, the Act by which the Society had been incorporated with the object of extending and enlarging that previously in existence, so that the sale of drugs could under certain restrictions be carried on by persons who had not a diploma in pharmacy at all, excepting in so far as compounding poisons or filling up medical prescriptions. Then the Act did not interfere with the sale of drugs of all kinds by wholesale houses carrying on business in the ordinary way; yet the charge against Mr. Baxter is that he kept his shop open for the sale of poisons and making up or filling medical prescriptions. He asked the ruling of the Bench upon the meaning to be attached to the words "Chemist and Druggist" and if they found that they did apply to dispensing chemists, they would, he believed, come to the conclusion that Mr. Payne had taken a very unusual course in coming down to prosecute a gentleman who had been and was doing a good work in Coleraine, when he could with infinitely less trouble have entrapped one of the numerous druggists in Belfast; but that would not have been agreeable to the gentlemen there, who regarded Mr. Baxter as a successful rival in the profession.

Mr. Macaulay: Mr. Payne is not, as I have told you over and over again, the prosecutor in this case.

Mr. Leech, continuing, said: Mr. Payne cannot account for how the prescription got into the hands of the Pharmaceutical Society, and he is the virtual complainant. He submitted the case must fail, as the *Dublin Gazette* does not contain the regulation by which Mr. Macaulay says it is necessary to enable a person not a pharmaceutical chemist to compound poisons or fill prescriptions. He also says there has been a conviction in Dublin, but he does not give us the names. The business of dispensing was carried on by Mr. David Baxter, who was duly qualified as a pharmaceutical chemist. So far as the dispensing was concerned, Mr. W. J. Baxter only acted as his assistant.

Mr. Leech continued to argue that if Mr. David Baxter was not in the shop at the time the drugs were sold, and did not compound the medicines, he was not more liable than Mr. Payne himself. Then, why did he not communicate with Mr. David Baxter, who is a member of the Society? But he (Mr. Leech) submitted that the case should be dismissed on the ground that the prescription was not the property of the Society, but of the party for whom it was made up. If they wanted strict law on the other side they would get it.

The Chairman: Please go on with the case.

David Baxter, sworn and examined by Mr. Leech: I am a member of the Pharmaceutical Society of Ireland. We have places of business in Coleraine and Ballymoney, and I travel up and down. The compounding is done under my superintendence if not by myself; my brother is competent as a chemist and druggist, practising on his own account before 1868. The Act then in force applied to the sale of poisons. The usual custom in any establishment in the trade is to take apprentices. If they did not get public experience they could not pass their examinations. I have been a member of the Society for six years. My brother is a practical chemist; indeed it was from him I obtained the greater part of the knowledge of chemistry I possessed before going up for my examination. The words "John Baxter, Chemist," are over the door of the shop in Ballymoncy. If my brother compounds a prescription, and uses my labels, the profit comes to me; I am the "Baxter" on the label (the bottle containing the prescription). When I got the summons, I wrote to the Society, but I got no reply; it was written to Mr. Macaulay. Witness here read an extract from the report of a meeting of the Society, the Council before whom the question was brought, characterising it as a very "ticklish" one. There was no wish to evade the law. If anyone is to blame in the matter it is I, because my brother merely does the mechanical part of the work, and nothing more than is customary in the trade.

Cross-examined by Mr. Macaulay: Where do you reside?—Sometimes in Ballymoney and sometimes in Coleraine.

Whose name is over the door in Ballymoney?—John Baxter.

Are all the articles ordered in your name?—It is impossible they could be, as they are ordered by us as a matter of course.

Please read this (handing a labelled bottle). Is that the heading of a label you employ, "W. J. Baxter, Pharmaceutical Chemist"?—It was, but there was a mistake of the printer. This is the printer's letter acknowledging the mistake at the time.

Is that a medical prescription?—It has all the appearance of having been written by a medical man, but there is no evidence to show that it was.

To Mr. Leech: There was a mistake made in the printing of the labels and only a very few were issued with the words "Pharmaceutical Chemist" on them.

Mr. Macaulay then briefly addressed the Bench, contending that both upon the law and the facts he was entitled to a conviction.

The magistrates then retired for consultation. On their return to Court,

The Chairman said: It is the opinion of the Bench that the case is proved against W. J. Baxter, and he will be fined in the sum of 5*l*.

Mr. Macaulay: To go to the Pharmaceutical Society.

The Chairman: Oh, you will take care of that.

INFRINGEMENT OF TITLE.

In the Chancery Division of the High Court, on January 27, Messrs. Goodall, Backhouse & Co. obtained an injunction against Edgar J. Hutchings, a pickle and sauce manufacturer, of Liverpool, who had sold a sauce, calling it Yorkshire Relish, and bearing labels very similar to those used by Messrs. Goodall, Backhouse & Co. The defendant's case was that many other manufacturers made Yorkshire Relish, and that the plaintiffs had not the exclusive right to that designation. He had withdrawn the labels and altered the bottles to meet the plaintiffs' requirements. Mr. Justice Kay granted an injunction, and characterised the defendant's attempt to imitate the plaintiffs' manufacture as a gross fraud. His Lordship reminded the defendant that, by a recent Act of Parliament, cases of this nature had now become amenable to the criminal law.

Imports and Exports. — Some people are very much exercised about the continued excess of British imports over exports, and argue that in process of time British wealth must be exhausted by thus living above our income. Perhaps the following facts will help to make the matter clearer:—Professor Holloway, in a letter on the free-trade question, says: I may be able to throw some light on this question. I ship to Melbourne ointment and pills, which I enter as costing me 100*l*.; my agent there sells them, and buys wool with the net proceeds, which I enter, market value, 1,000*l*.; consequently, the imports show that year an increase of 900*l*. over the exports, my profits on that transaction. Again, Lady Brassey, in her diary of the *Sunbeam*, says: "I sold trinkets that cost in England 20*s*., getting in exchange birds, animals, and skins, which were valued in England at 100*l*., leaving a profit of 99*l*., which, in that year, would explain to that amount the excess of imports over exports."

BANKRUPTCIES AND LIQUIDATIONS.

W. W. Young, Chemist, 225 Jamaica Road, Rotherhithe.

The adjudication in this case was made in April, 1881, and the trustee (Mr. Joseph Andrews) applied to the Court on the 7th inst. for an order closing the bankruptcy. He reported that the estate had realised 789*l.* 10*s.* 6*d.*, and that a dividend of 13*s.* 3*d.* in the pound had been paid to the creditors. Mr. Registrar Pepys made the order. An application followed on the part of the bankrupt for his order of discharge, in pursuance of a special resolution of the creditors. There was no objection, and the discharge was granted.

Henry Lindley, Sheffield.

At a meeting of the creditors of Henry Lindley, chemist and druggist, 57 South Street, Moor, Sheffield, held on January 31, the debtor's offer of 2*s.* 6*d.* in the pound was accepted. The liabilities amounted to 1,622*l.*, and the assets to 269*l.*

Re Evans and Cant.

A meeting for public examination was held in the London Court of Bankruptcy on January 12. The bankrupts were aniline dye manufacturers and patentees, carrying on business at the Easteru Chemical Works, Marshgate Lane, Stratford. Their joint liabilities amounted to 2,699*l.*, and debts fully secured 4,230*l.*; assets, 1,800*l.*

Mr. Tanner appeared for the trustees, and said that the bankrupts desired to make some slight amendment in their accounts. This was consented to, and there was no opposition to the bankrupts passing their examination.

His Honour said that the amendments might be made, and allowed the bankrupts to pass their examination.

Thomas Lee, Manchester.

Thomas Lee, residing and carrying on business as a chemist and druggist at 106 Brunswick Street, Chorlton-on-Medlock, Manchester, and lately carrying on the same business at 54 Derby Street, Lower Broughton, has filed a petition for liquidation in the Manchester County Court on Jan. 13; liabilities 600*l.* Mr. John Dawson, of 6 Brown Street, Manchester, was appointed receiver.

Foreign and Colonial.

Cobalt Ores were exported from Chile: 167,925 kilos. in 1878, and 92,264 kilos. in 1879.

A Chemists' ball, "Pharmaceuten ball," was held in Vienna in January, and was very successful.

Haschisch was exported from Syra, in the Greek Archipelago, during 1880 to the following places and extent: To Turkey, 220*l.*; Italy, 220*l.*; Egypt, 152*l.*

The *Pharmacie Centrale* of France reports sales direct to pharmaciens during 1881 amounting to over 9,100,000f., or 364,000*l.* sterling.

Austrian Minerals.—The following quantities of the ores of the rarer metals were brought to the surface in Austria during 1879. (Compare page 225 of our last volume.) Metrical centners of ore: Nickel and cobalt, 274, value 1,797fl.; bismuth, 48; antimony, 1,725, value 20,940fl.; uranium, 72, value 39,387fl.; tungsten, 69, value 539fl.

Bismarck a Homœopath.—It appears from statements in German journals that Prince Bismarck's family physician is a certain Dr. Zwingenberg, a homœopathic practitioner. In a recent number of the *Zeitschrift für Homœopathie*, Dr. V. Villiers states that Prince Bismarck first gained faith in homœopathy at the time that he was ambassador at St. Petersburg, in which city Dr. V. Villiers was practising as a homœopathic physician, and effected the cure of a patient in a family with whom Bismarck was closely intimate.

Mr. Thomas Ingham, pharmaceutical chemist, Rockhampton, Queensland, prepares a concentrated essence of *Euphorbia pilulifera*, which, we are informed by a private letter from the colony, is really an effective remedy in cases of asthma, influenza, and other chest affections. Messrs. Burgoyne, Burbidges & Co. are English agents for it.

Oil on the Waters.—A curiosity in the Gulf of Mexico has been discovered. It is a harbour in the open gulf, 15 miles from land. A kind of oil is thrown up by the processes of nature, and rests upon the surface of the water in a thick scum. The effects of the oil are so great that even in the severest storms the sea in this peculiar harbour is comparatively smooth. This is so well known that when a storm approaches small vessels run for this "oil pond," as it is called, and ride out the gale in safety.—*Petroleum Age.*

Cochineal.—At the end of 1879 and the beginning of 1880 speculators had forced the price of cochineal up to 2*s.* 6*d.* and 3*s.* 4*d.* a pound (November, 1879). When it reached this figure dyers turned their attention to aniline dyes, which were found so satisfactory that the use of cochineal has been partly abandoned. The cochineal imported at that time hung on the owners' hands, and prices began to fall rapidly until last November, when the market became more active. But the prices were then only 1*s.* 8*d.* to 1*s.* 10*d.* a pound, at which cochineal cannot be produced except at a loss. In Teneriffe, where the insect was a staple product, the results have been heavy losses to some and almost ruin to others. Still the crop last year was not below the average, although increased attention is being given to the cultivation of tobacco, the vine, and other things. From the island of Teneriffe 9,359 bags with 1,525,321 lbs. were exported during the year ending June 30, 1880. The total export from the Canary Islands was 23,667 bags with 4,036,871 lbs., showing a decrease of 5,482 bags with 1,008,136 lbs.—*Consul Dundas' Report on Commerce of Teneriffe during* 1880.

The Manufacture of Potash Salts at Stassfurt.—The four mines of the great potash salt district of Stassfurt, Germany, now produce daily about 3,000 tons of crude potash salts, from which 32 works make daily 500 tons of chloride of potassium. The price of the latter, which was about 30*s.* per 100 lbs. in the beginning of the year 1874, steadily fell until it reached 4*s.* This naturally crippled the manufacturers, two of whom failed, while 15 others suspended operations, and still the stocks continued to accumulate, until they reached the enormous amount of 15,000 tons. In the beginning of 1879, according to the *Chemiker Zeitung*, the four mines made an agreement for five years, the principal points of which were the following:—A committee of representatives to settle the quantity of crude salt to be mined, of which the Prussian mines furnish 25 per cent., the Anhalt 50 per cent., and Douglashall and New Stassfurt each 12 5 per cent., the price of the crude 15 per cent. salt to be fixed at 5*d.* per 100 lbs. In consequence of this action the stocks have been lowered, production has increased to 3,000 tons per day, and the price of 80 per cent. chloride of potash has risen to 6*s.* per 100 lbs.

NOTES FROM GREECE.

Quality of Quinine Sold in Greece.—In consequence complaints the College of Physicians ordered an examination of all the different sorts of quinine imported. The English quinines and that made by the renowned firm of Jobst, Stuttgart, were found completely free from cinchonine. In two shops were found samples imported from Lombardy containing 15 and 30 per cent. of cinchonine. Dr. Landerer has often examined a brand labelled only "Sulphate, 16 grammes. Steffenson (warranted), London." This was hydrochlorate of cinchonine. A great deal of this was introduced into the island of Zante, and packed in quinine-bottles, and thence transported to other parts of the Peloponnesus.

On Agnus Castus Berries as Anti-blenorrhoics.—The twigs of this willow-like tree (called in old books "Abraham's Willow") are used in all parts of Greece for baskets, and for all other purposes for which willows are used further north. The plant is called "Lygos." It is believed that it preserves the chastity of women, for which reason it was used by the women on the feast days of the goddess Athena for orna-

ment. Beds were strewed with it, and decoctions of it were drunk. The berries resemble cubebs, and are used by some wine-dealers to correct sour wine. In recent years an ethereal extract has been prepared from them named "Casnum," and has anti-blenorrhoic properties like cubebs.

Apricot Paste.—The Kaissopyta, or Pistill, of the Turks, a kind of apricot paste, is an article of commerce in Damascus and Cyprus, where apricot-trees are found in millions. The fruit is pressed through sieves, the pulp spread in thin layers and dried in the sun. It is made up into rolls, and forms a standing article of diet. The housewife will cut a piece off with her scissors, and cook it as desired. [Burton speaks of apricot paste, and says it is named "Mare's skin, Jisr el Faras, or Kamas el Din," by the Haj pilgrims from Cairo.

A Bulgar Remedy for Children's Diarrhœa.—This disease is very fatal in Greece, but the commonly-prescribed remedies seem useless. In the Greek islands the women administer Mastichoneron, or decoction of mastic, and apply the poultice called "Krassopsoma," made of bread worked with good red wine, and strewn with powders of aromatic plants. This treatment is usually successful.

Cold Remedy for Baldness or Foxes' Evil.—The following treatment has been successful:—Wash the hair and skin daily for several days with a concentrated decoction of saponaria root, called "Tsoin" in Turkish; then apply tincture of valonea in red wine. This tincture has been called "Aletrichon."

Remedy for Hydrophobia.—Dr. Landerer writes: "During this year several persons have been bitten by dogs who were supposed to be rabid in the island of Salamis. The antilyssicum remedy was administered to them and not one was attacked by hydrophobia. I think, therefore, that this remedy is worthy of an exact examination to determine its value against the bites of venomous serpents as well as of mad dogs. In the island of Salamis stands a monastery called 'Panojia Phaneromine,' and from the oldest times the idea has existed that its priests alone possessed the secret of the medicine which I have described as 'Antilyssicum,' or 'Pulvis Antilyssicus Monasterii Salamis.' Hundreds of persons bitten by suspected snakes or dogs flee to the monastery from all parts of Greece, Asia Minor, and the Islands, to receive this miraculous cure. I have examined it, and my results have been confirmed by the monks. I find that it is composed of the powder of the plant *Cynanchum erectum*, and of the powder of an insect called *Mylabris variegata seu tripunctata*. Forty to eighty of these powders are given to the patient. The interesting plant *Cynanchum* was known in the oldest Hellenic times, and Dioscorides tells us that it was called 'Cynanchon' because it destroyed dogs, wolves, panthers, and all quadrupeds. The insect was the cantharis of Hippocrates. The Patriarch of the monastery has prepared from it blistering plasters, and the insect seems to contain an epispastic principle more powerful than cantharidine, which I have named 'Mylabarine.' The monks assert that none who have taken their powder have suffered from hydrophobia."

Medical Gleanings.

GULF-WEED IN OBESITY AND EPILEPSY.—Dr. M. Miltenberger claims (*Maryland Medical Journal*) that 2 grains of the powdered extract of gulf-weed every two hours has proved of value in one case of epilepsy associated with obesity. The effect on epilepsy was doubtless due to the reduction of obesity which had aggravated it. There is much conflicting testimony on this point.

DR. TUCKERMAN says: Quinine may be rendered tasteless by giving it with powdered slippery-elm bark. Take about 5 grains of the bark and mix with about half a tablespoonful of water, stirring till the mass is thoroughly mucilaginous; then mix in a dose of quinine, and give it to the patient, following it with a swallow of water. The bitter is barely perceptible.—*Medical Brief*

BLACK POINTS ON THE FACE.—Dr. Unna, of Hamburg, says the little black-headed excrescences often found on the face are not, as is generally supposed, the accumulation of particles of dirt, but are really pigmentary matter, which is soluble in acid. He prescribes as an application—

	Parts
Plaster of Paris	4
Glycerine	3
Acetic acid	2

with or without the addition of a small quantity of ethereal oil. The application should be made every night, shutting the eyes while it is being applied.

PHYSICIANS IN CHINA.—The Chinese authorities of Shanghai recently issued a quaint decree respecting the neglect of physicians to attend at once on their patients and the high fees which they charge. They give notice that it is the duty of all physicians to use their knowledge for the benefit of the people; when people are sick they must be ready to attend upon them whenever they are sent for, without regarding the hour of the night or day or the state of the weather. When people are ill they long for the presence of the doctor as the grain of seed longs for the rains. Instead of doing this, however, the physicians now think that they possess great skill, and not only charge high fees, but insist on being paid full hire for their chair-coolies, and they do not care what becomes of the patient so that they get their fees. If these were only charged to the wealthy, it would not so much matter; but the poor have to pay them also. An evil practice, the decree goes on, also exists by which doctors will not visit their patients before one o'clock in the afternoon: some will even smoke opium and drink tea until late in the evening. These are abuses, the magistrates say, which they will on no account permit. Doctors must attend their patients at all times; they must, if necessary, visit them several times daily; they must think more of them and less of their fees. Notice, therefore, is given to all officials and people that a physician who does not attend when he is called must only receive half his fees and half his chair-hire. "If you physicians delay your visits you show your wickedness and sin against yourselves." The decree is a model one for a paternal Government; argument, entreaty, objurgation, exposition, threats, are all mingled in due proportions.—*Nature*.

PERMANGANATE OF POTASH IN SNAKE-POISONING.—It was reported not long ago that M. de Lacerda had found that permanganate of potash effectively counteracts the poison of serpents. M. Lacerda's experiments were made in South America. Dr. Vincent Richards, of Godundo, Bengal, a well-known authority, has since tested the power of the permanganate to neutralise the poison of the venomous snakes of India. His first report has been published in the *Indian Medical Gazette*, of January 2, 1882, and a summary of it was published in the *Medical Times and Gazette* of January 28, 1882. Dr. Richards reports 33 experiments; 20 dogs, 10 fowls, and 1 duck were operated on. In 13 instances more than a fatal quantity of cobra poison, dissolved in water, was mixed with permanganate and introduced beneath the skin or into a vein, and no symptoms of poisoning followed in any case. But it was found by four experiments that if the poison were dissolved in glycerine instead of water the addition of permanganate appeared to have no power over the virulence of the poison. Dr. Richards then endeavoured to ascertain how long interval might elapse after the injection of the poison until the injection of the antidote. The permanganate was administered one minute after the poison, and no symptoms followed; in another case two minutes, in another three, and in another four minutes after, and still no symptoms followed. Next an interval of seven minutes was allowed, but the dog died in about an hour. Dr. Richards is doubtful, however, whether in this case the permanganate had been properly injected. He found by other experiments that permanganate had no prophylactic properties, nor had it any effect on an animal when poisoning symptoms had set in. The proportion of permanganate he used was $1\frac{1}{2}$ grain in 9 grains of water. The experiments are interesting, but they do not seem as yet to offer any solid ground for hope that a practical antidote has been found. Besides the necessity of injecting the antidote almost coincidently with the poison, it seems hardly certain whether the poison as imported by the snake is in the condition of an aqueous or of a glycerine solution.

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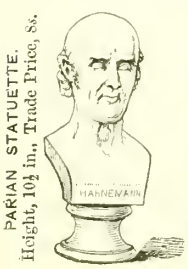

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SPECTACLES. } See HENRY LAURANCE'S Advertisement, page 10.

SYRUP OF HYDRIODIC ACID. See page 79.

HAY'S SOLUBLE ESSENCE OF GINGER. See page 43.

HAY'S GINGER CHAMPAGNE. See page 47.

TASTELESS CASTOR OIL. See page 98.

CHEAPEST CONDY'S FLUID OF ALL. See page 27.

HOMŒOPATHIC MEDICINES (KEEN & ASHWELL'S). See page 19.

MAY & BAKER. See page 2.

EDITORIAL NOTES.

CHEMISTS AND THE LAW.

DURING the past month several legal cases of unusual interest to chemists have been decided, reports of which will be found in other parts of this journal.

By far the most important of these cases has been the police prosecution of Mr. Harvey, of Kensington, the proprietor of Hunter's Solution of Chloral. This was not altogether unexpected nor, we may add, entirely undeserved. Hunter's Solution of Chloral has figured rather frequently, especially of late, in reports of inquests, and it was obvious that it was absurd to place the sale of chloral simply under restrictions, but to allow this preparation to be sold by anybody and everybody, without even the precaution of attaching a cautionary label to it. We have repeatedly in these pages, in answer to correspondents, in editorial remarks, and very explicitly in an article in our Diary of 1881, ex-

pla ed that the law required that patent medicines contai ng poison should be labelled and sold generally with the bservance of the same formalities as if they were not pat t medicines. The 16th section of the Pharmacy Act, wh h exempts patent medicines from the operation of the cla es "hereinbefore" contained, evidently does not apply to e 17th clause, which is the one which regulates the sal of all poisons. Still, it is a fact that chemists, as a ru , have not labelled patent medicines "poison" even wh n, as in the case of this Hunter's Solution, they profe dly contained poison. It is much to be regretted that in tting this case before the magistrate Mr. Poland should not ave confined himself strictly to the words of the Act. He undertook to prove the dangerous nature of chloral, and evidently put the magistrate on a wrong scent. The ma strate came to the conclusion "on the medical evi ence," none of which was submitted to him, that chloral wa poisonous, and, therefore, he decided against the defe ant. The question before him was whether chloral, bei g included in the poison schedule, could be sold as a pa t medicine without the observance of the formalities nec sary if it had not been made into a patent medicine.

. Harvey, we understand, does not feel inclined to fight the battle any further. He now labels his preparation "p son," and by advertisement recommends all dealers to co plete the requirements of the Pharmacy Act by attaching heir name and address to the bottle before sending it out f their shops. That settles the difficulty as far as this par ular medicine is concerned, but it opens a hundred diff lties in other directions. There are numbers of patent me cines supposed to contain a scheduled poison. Are che ists to label them "poison" on the mere guess? Wh her the police intend to take further steps we do not kn , but it must be understood that anybody may prosecut under the 17th section of the Pharmacy Act, and the sell of a poisonous patent medicine, not the maker, will hav to pay the penalty if anybody should choose to make a cru de, and if the presence of poison should be proved. The easonable course to pursue, and it will have to come to tha ultimately, would be to repeal the exemption of patent me cines from any of the clauses of the Pharmacy Act, thu limiting their sale to registered chemists and druggists, and o require all makers of patent medicines, into the compo ion of which any scheduled poison enters, to disclose tha act.

T case tried at Kidderminster, which resulted in the def dant, a chemist, having to pay the plaintiff 50*l.* damages for jury by alleged unskilful treatment of a whitlow in the nger, must be accepted as another of the many warnings of the risky nature of a chemist's business. It will soon com to pass that only persons of independent fortune will be to engage in that occupation, and certificates of such pec iary qualification will shortly have to be required from can dates for pharmaceutical registration before admission to e examinations. No one will dispute Sir Rupert Kete's estimate that 25*l.* net is a moderate price for the forefinger of the right hand; but readers of the rep t of the case which we publish in this number wil be rather disposed to doubt whether it was stri ly fair to make the chemist pay. The evidence sub mi ed in particulars which we should have supposed were im rtant was conflicting; the judge, however, considered tha those particulars did not affect the legal aspect of the cas Mr. White, the plaintiff, showed his finger to the def dant on Monday, October 10; during that week Mr. Gro e, the defendant, did what he could for the finger, but he d not cure it. On the Monday following the plaintiff we to two doctors who also treated the finger, and ultimately, on November 13, took it off. The chemist treated the finger for one week, the doctors for a month. It seemed clear that Mr. White had consulted Mr. Grove as a chemist only; there was no evidence that the latter had professed to be any other than what he was. He himself declared, and brought confirmatory evidence to prove, that he had urged the plaintiff to go to a doctor, or to the infirmary. That was the point to which we should have thought much weight ought to have been attached, because, if such advice was given, it was equivalent, or nearly so, to a repudiation of competence to deal with the case, and to that extent threw the responsibility on the sufferer himself. Further, there was no evidence that the chemist's unskilfulness occasioned the amputation of the finger; the doctor, in evidence, distinctly declined to say that that result was due to Mr. Grove's treatment; and, considering the short time he treated the case, and the much longer time the man was under medical care, we imagine that conclusion would be difficult to prove. It is quite right that chemists should understand that if they undertake surgical cases, and hold themselves out as competent to treat them, they become responsible for the consequences in the event of their treatment occasioning injury to the patients; a surgeon is subject to exactly the same law, though, of course, the presumption would be rather more in his favour than in that of the chemist. We fail to see what difference it makes to either case, whether reward was to follow or not; the chemist was sued for the consequences of malpraxis, and the malpraxis ought to have been proved against him.

The case at Lynn, where a limited company were sued by the Board of Inland Revenue for the sale of laudanum made with methylated spirit, was one of curious interest. The Board had stumbled once before in prosecuting the firm by name, not knowing that they had registered themselves under the Limited Liability Act, and could therefore only be sued by the name of the company. Laudanum, as is well known, is an article of large consumption in the eastern counties, and the Bishop Company were selling theirs at the very cheap rate of 3*d.* per ounce. On analysis the presence of wood spirit was easily traced, and the case seemed clear against the defendants. Evidently they made their laudanum with methylated spirit. "Oh dear no," says Mr. Bishop, the manager of the defendant company. He knew the use of methylated spirit for tinctures was forbidden by the Excise, but his customers would have the delicate naphtha flavour; and besides this, he made his laudanum from extract of poppies, and with proof spirit alone such laudanum did not come clear, so he was accustomed, after the laudanum had been made about fourteen days, to add some naphtha to clarify it. It was not possible to prove by scientific evidence that the defendants had not taken all this trouble to look like guilty by innocent methods, and the summonses were dismissed; but the magistrates very properly intimated to the victors that they had only narrowly escaped heavy penalties. The use of methylated in lieu of rectified spirit in the preparation of medicines is a mean fraud on the revenue, and a cruel crime against the customer who may take the poisonous compound. We are not at all implying any disbelief in the statement made by the Messrs. Bishop. On the contrary, we are inclined to believe it; for we have heard before that in many parts the accustomed laudanum drinkers got quite to like the flavour of their methylated laudanum, and complained of the tastelessness of the purer article. But the excuse by no means justifies the employment of the stuff in medicine, in the preparation of which the strictest honour is at least as essential as technical training; and we have known no business raised to a high position except where both

essentials were combined. In this, as in other paths of life, the beaten track is the safest road.

PRESCRIBING CHEMISTS.

RIGHTS are double-edged. The chemist's right to prescribe in simple cases is now recognised by most men. But we must not forget that our rights bring grave responsibilities. A death occurred in London last month which, though the chemist was not formally censured by the coroner, must have caused him uneasy reflections. The chemist treated a child for gatherings on the fingers, lancing them and administering a cooling medicine. One day vomiting set in. No attempt—at least, no successful attempt—was made to discover its cause, and the chemist gave some medicine to stop it. Two days later the child was dead from blood poisoning. The medical witness affirmed that the vomiting was a well-known herald of the approach of that terrible disease, and that it would have put a doctor on the alert.

Such an occurrence must surely cost a right-minded chemist much distress. If he had only known a little more he would have foreseen the danger; if he had only known a little less the parents would have gone to a doctor. His ignorance has led to the loss of a life which might, perhaps, have been saved, and to all the anguish that implies. How could he know that the danger was so near?

Every chemist—everyone, rather—who allows himself to give advice to the sick without consummate knowledge is walking over a mine, which may at any moment explode and ruin his peace of mind, even if it leaves untouched the less valuable possessions of goods and reputation.

BRITISH *VERSUS* COLONIAL PHARMACY.

THE Canadian *Pharmaceutical Journal*, in a leading article published in the January number, supports the suggestion made in our November number that some attempt should be made to secure reciprocity between Great Britain and all her Colonies in respect to the validity of pharmaceutical diplomas. At present, we believe, a pharmacist with a certificate of having passed the Minor examination of the Pharmaceutical Society of Great Britain would be able to get registered in any part of the British Empire where pharmacy laws are in force, except in Canada and Ireland; but the Pharmaceutical Society of Great Britain recognises no certificate except its own. It must be obvious, as we before pointed out, that it is more to the interest of British than of Colonial druggists that such a system of reciprocity should be established. The trade in the Colonies is sure to be recruited from here to a far greater extent than our numbers are likely to be augmented by chemists educated in Australia or Canada. Therefore, it would seem to be rather the province of the British Society to make the first move towards reciprocity. As we stated in November, the request sent to the English Council from the Pharmacy Board of Victoria was rather curtly replied to—it was never discussed in council—by the perfectly correct statement that the Council had no legal power to accept other certificates than those of the British examiners as qualifications for the British register. This the Pharmacy Board of Victoria no doubt knew well; what was asked was that the Council would take steps to get that law altered. The persons most interested in the modification of the law which we have suggested are the many young men in this country who are already revolving in their minds thoughts of a Colonial home, and yet who would find it greatly more convenient to obtain their diplomas here than to wait till they get abroad.

LEAD CONTAMINATION.

UNDER the able guidance of its own sensational chemists Paris during the past year has been subject to some considerable alarm in regard to lead poisoning. An official report has lately been issued by MM. Belgrand and Le Blanc in reference to the water supply of Paris, and a translation of it has been submitted to the Commissioners of Sewers of the City of London by Dr. Sedgwick Saunders, the medical officer and public analyst for the City. The main supply of water in Paris passes through cast-iron pipes, but the branch pipes connecting houses with the main channels are of lead, and the length of these is given at 1,580,000 metres, or nearly 1,000 miles. The chemical examination of the waters reported by MM. Belgrand and Le Blanc shows that none of the samples gave an appreciable colouration with sulphuretted hydrogen; not a trace of lead was found in the residue obtained by evaporation in a platinum capsule. Their further experiments show, as has often been proved before, that, while distilled water containing air does act immediately upon lead, dissolving an appreciable proportion, no ordinary water has this effect. Even rain water, unless very carefully collected, does not act sensibly on lead. The presence of a very minute proportion of lime salts seems sufficient to ensure practical immunity from any lead in solution.

HERALDIC.

IN August, 1879, we published a letter from Mr. W. N. Allen, of Dublin, showing that the heraldic device figured in the seal of the Pharmaceutical Society of Ireland did not correspond with the description given in the regulations of the Society which had been previously approved by the Privy Council. We may state in passing that, although there was no doubt of the correctness of Mr. Allen's criticism, the inaccurate seal has never, we believe, been discarded, and, consequently, it is doubtful whether any documents to which that seal has been attached are of permanent legal value. We allude to this matter now, however, because in a foot-note to his letter Mr. Allen mentioned incidentally that the flag of the Union Jack, which appears on the shield of Britannia in our bronze coinage, is incorrectly represented. We are reminded of that remark by meeting with the subjoined paragraph, which has been published authoritatively:—

> After being in circulation some years it has been discovered that the quarterings on the shield of Britannia on the existing bronze coinage are wrong. The device on the shield ought to be the same as that on the national flag, that is, the English cross of St. George, with the St. Andrew's cross or saltire of Scotland side by side with the Irish saltire. The Scottish cross, however, has by some oversight been omitted, and a new issue of coins is about to take place remedying the defect. These coins will be distinguished by the mint mark "H" on the reverse.

THE DECLINE OF THE PHARMACEUTICAL SOCIETY.

THE members of the Pharmaceutical Society are gradually, but apparently by the action of an inexorable necessity like that which is driving the aborigines of North America and New Zealand out of existence, certainly disappearing. On December 31, 1881, they were 50 fewer than at the end of 1880. That year 26 were lost; in 1879 the fall was 32; it was 35 in 1878, and 36 in 1877. In these figures life members, pharmaceutical chemist and chemist and druggist members are all taken into account, but it is hardly necessary to consider other than the pharmaceutical chemists who join the Society. The number of life members may be expected to gradually decline, and the chemist and

drugist members, who are composed of men in business before August, 1868, must necessarily die out. The pharmaceutical chemist members are those who pass the Major examination, and then seek election to the Society. There are now 2,308 pharmaceutical chemists on the register, and of these 1,695 are also members of the Pharmaceutical Society. Of course it is understood that membership of the Society is quite optional with them, and it would seem that nearly one out of three of those who pass the Major do not consider the advantages worth the annual guinea. The Council are annually shocked and astounded at what appears to them the inexplicable fact that any persons who have made pharmacy their profession should dream of carrying on that business without associating themselves with the august body which reigns at Bloomsbury Square. We are now therefore, in for a course of theories respecting these wandering sheep, and schemes to fetch them in the fold. We are not much interested in such discussions. It does not follow that British pharmacy is disgraced in the eyes of Europe because a proportion of those who practise it feel no interest in the pointless discussions which one has to master in order to be a thorough professional pharmacist. It is wilful heresy, no doubt, and execrable taste in the bargain, that a man should prefer to concentrate his attention on earning his living, rather than dissipate some of it in the effort to understand exactly the relationship between pharmaceutical education and pharmaceutical examination; but we are not inclined to attribute moral turpitude also to the pharmacist who adopts such a course. We are, however, anxious to relieve as far as possible the anxiety of those excellent gentlemen who engineer the Pharmaceutical Society, and we shall, therefore, offer them a very simple explanation of their present melancholy position. First, let us see what is the actual state of the case. The number of pharmaceutical chemists who are members of the Society since the passing of the Pharmacy Act has varied as follows:—

1868, 1,739 ..	1873, 1,848 ..	1878, 1,759
1869, 1,783 ..	1874, 1,832 ..	1879, 1,742
1870, 1,802 ..	1875, 1,823 ..	1880, 1,729
1871, 1,797 ..	1876, 1,811 ..	1881, 1,695
1872, 1,766 ..	1877, 1,788	

It would be easy enough to urge that the Society loses its members because it does so little for them. That would seem plausible enough, and it probably has some little weight, but we candidly do not believe it has much. There are many people who subscribe to the Society in the belief that it will do anything for them. They have long ago abandoned any such vain imagining. They join it simply because they have the guinea to pare. The mystery is all solved by the sun-spot theory. We know that our wisest teachers have discovered that cycles of good and bad trade depend upon sun-spots; and there is hardly any reason to doubt that the steady decline in the number of members of the Pharmaceutical Society is similarly consequent on the steady succession of bad years for pharmacy.

THE PARLIAMENTARY SESSION has opened, and no sign of any measure directly affecting pharmacy has appeared either from the Government or from any private source. The Pharmaceutical Council have their "Bill in a box," but it does not seem to have occurred to them to try to bring it out for a little exercise at Westminster. Perhaps it would have been difficult this session to get any Bill through Parliament, but it is quite certain that a short Bill limiting the sale of all poisons, whether as patent medicines or otherwise, to registered chemists and druggists would have found many supporters, and would very likely have run through Parliament without any serious opposition. It would probably have been quite safe to have added to it a clause containing the reasonable provision that the word "person" in the Pharmacy Act should include "corporation." The helpless abandonment of all attempt to get the Pharmacy Act amended because the first effort failed is, or should be, a serious charge against those members of the Council who have by their votes and speeches recognised the importance of doing something to restore it to efficiency.

THE *British Medical Journal*, January 28, 1882, referring to the probability of an effort being made "in the ensuing session of Parliament to amend the law as to the sale of poisons by making it more stringent," considers that "we may be sure that the chemists and druggists, and the pharmaceutical chemists, will strenuously resist any alteration which would tend to restrict their retail trade in poisons." How comes the *British Medical Journal* to be so sure of this? The chemists, we expect, will be glad to meet any reasonable requirements of the Legislature in relation to the sale of poisons. What they will resist will be regulations to be applied to them and not equally to the dispensaries of medical men.

THE *Medical Times and Gazette*, commenting on the fatal accident at Guy's Hospital last month, finds "a laxity of conduct" in the dispenser for sending into the ward morphia powders of deadly strength without labelling each powder; in the sister who placed the powders in an open basket accessible to everybody; and in the other sister who concluded without due examination that the powders in the basket were those intended for her patient. Not a word about the doctor who ordered those deadly powders to be sent into the ward.

PHARMACY is on the brink of ruin, as we all know. The time is, therefore, admirably chosen for the establishment of a second Chemists' Ball, which, we suppose, is intended to be an annual one, so long, at least, as any trade remains. The Junior Pharmacy Ball is to come off on the 17th inst., at St. James's Hall, and we believe that the tickets for 250 dancers—the number to which the Committee necessarily resolved to limit the admission—have been taken up for some time past. Mr. W. H. Kerr, of 30 Conduit Street, Bond Street, is the honorary secretary.

THE members of the Institute of Chemistry, or at least a proportion of them, met at 6 P.M. on the 1st inst. for their annual meeting, expecting to hear an address from their President, Professor Abel. They waited some time, but Professor Abel did not appear, and Mr. James Bell, the principal of the Somerset House Laboratory, was voted to the chair, and the business was formally got through. The report showed that the Institute numbered 412 fellows, which was exactly the same number as last year. After the meeting had dispersed Professor Abel arrived with his address in his pocket, he having assumed the hour of the meeting to be eight instead of six.

ANTICIPATIONS of the Budget for 1883 are likely to be wide of the mark with Mr. Gladstone at the Exchequer and a few millions to play with. Sir H. D. Wolff has given notice of his intention to move the desirability of diminishing the duties on tea, coffee, and tobacco, and compensating the revenue by imposing extra duties on wine, silk, gloves, and other luxuries. Meanwhile, Mr. Gladstone has on two or three occasions pretty plainly indicated an intention of making some changes in regard to local taxation, and it is supposed that he may hand over to County Boards certain items of imperial taxation. The *Grocer* has heard rumours from well-informed quarters that it is intended to impose a shopkeeper's licence, charging perhaps a pound or two a year for anybody to have the right of earning a livelihood from a shop. The *Grocer* is no doubt well connected and may have got its tip direct from the stable, but we do not think there is any fear of any Chancellor with a reputation to lose venturing on such a wild scheme as that suggested.

DR. AQUILLA SMITH has no hope that if anything is done to further restrict the sale of poisons in England such pro-

visions would be extended to Ireland. "They never take Ireland into consideration," he complains, "unless some Irish member interposes. They mind nobody's business but their own in England." How many a weary Britisher would vote the doctor a saint for ever if he could prove his words! He crieth, "Peace, peace," when there is no peace.

A LADY friend of ours recently accounted for the disappearance of her feline favourite through the fact of its having gone astray and smelt some Pussy's acid, a strong chemical compound which exercises a strange fascination upon cats generally.

OUR esteemed friends the Plymouth Brethren have taken in hand the Pharmacy Act, and seem likely to enforce its provisions more effectually than its official trustees have done. Last month Mr. Culver, dentist, homœopathic chemist, and Plymouth Brother, of Croydon, brought an action for libel in the Queen's Bench against another Brother, named Walton, who seemed to have been the active agent in getting Mr. Culver "put away from among us." The offending Brother (Mr. Culver) had been charged with "unrighteousness, untruthfulness, and railing," these defects in his character being apparently based on the allegations—first, that he (Mr. Culver), being a witness in a County Court action, had stated that he had been in business for five years, whereas he had actually been in business only four years and 47 weeks; secondly, that he had carried on business with a partner as a chemist, and had sold poisons, not being legally qualified. The plaintiff stated that he had been injured in his business by the charges made against him, the Brethren having refused to deal with him. Mr. Justice Denman and the jury seemed to think that malice had actuated the defendant, and gave damages (50*l.*) in plaintiff's favour.

THE chances of getting out of the way of an explosion when it has once started on one's track seem to be extremely limited. MM. Berthollet and Vieille have tested the velocity of the explosion of a mixture of oxygen and hydrogen in long tubes, in which at intervals 1 grain of fulminate of mercury was attached to a strip of tin. It was found by means of a very delicate chronograph that the average of velocity was 2,841 metres, or nearly 10,000 feet, per second.

WE have seen a circular which has been sent to some firms in the trade inviting co-operation in a proprietary medicines association, limited. It is proposed to form a syndicate of persons connected with the trade. A capital of 10 000*l.* is asked for. It is likely enough that some such scheme influentially supported might prove successful, but the circular which we have seen gives no indication as to the position of the promoters of this enterprise—a piece of information of essential importance to those who are asked to provide the 10,000*l.*

HERR RADLAUER, of Posen, whose Coniferen Geist we noticed last month, describing it exactly as we found it, has unfairly translated our remarks and advertised them in the German *Pharmaceutische Zeitung* as though we had written in terms of the most gushing ecstacy concerning his product. We take it as a very friendly action on the part of the editor of the *Pharmaceutische Zeitung* that in the same issue as that in which the advertisement appears he has printed our notice, accurately translated, and Mr. Radlauer's version thereof in parallel columns.

WE like to encourage enterprising firms, and therefore think it worth while to make known that Messrs. Millard, Son & Appleton are advertising their price-list of "patent medicines, homœopathic medicines, cattle medicines, &c.," and Messrs. May, Roberts & Co., their price-list of patent medicines, in our esteemed contemporary *The Grocer*.

THEY have had an outbreak of small-pox in the Bolton Workhouse, and the guardians have resolved to supply tobacco to all the inmates who will smoke it in order to disinfect the building.

THE *St. James' Gazette* has discovered a mystery. It remarks: "What Edinburgh does with the numerous chests of opium which trade returns show to be sent to that city direct from Turkey we do not know." It was hard that the very highly cultured inhabitants of the capital of Scotland should be thus obliquely charged with debauchery because the *St. James' Gazette* does not know that the two chief factories of morphia and the other opium alkaloids in the world are both established at Edinburgh.

THE *Pharm. Zeitung* of January 18 published an article respecting the letter published in THE CHEMIST AND DRUGGIST of December 15, signed "British Pharmacy," protesting against the scant courtesy shown to the French delegates at the Pharmaceutical Congress, and the scurrilous diatribes of the *Pharmaceutische Zeitung*. The *Pharm Zeitung* would not have continued the discussion if it had not been that the doubtfully anonymous article had found its way into the French journals, and had been served up as usual with some piquant addition *à la Française*. The letter was said to be written by "a recognised leader or English pharmacy," but the writer evidently was not a Richard Cœur de Lion, for, adopting the policy that discretion is the better part of valour, he had chosen to write over the signature of "British Pharmacy." The *Pharm. Zeitung* article which had been criticised had not been written for the purpose of flattering French *amour propre*: but it was a necessary answer to grave insinuations which had been made in the French reports of the Congress. The Samaritan service which THE CHEMIST AND DRUGGIST and its anonymous, *probably Cannonstreet-dwelling-friend*, render to the French may be very Christian, but it seems to the *Pharm. Zeitung* that it would have been fitter as regards our own affronted countrymen, our guests, and contemporaries if we had rather referred the Frenchmen to the impartial judgment of Dr. Hoffmann, of New York, whose letter we published in the same number as that of "British Pharmacy." If, however, THE CHEMIST AND DRUGGIST chooses to make itself the echo of the French complaints the proverb applies, "A foul bird, that dirty 's its own nest' (*sic*). In reply to all this we repeat that our correspondent was a recognised leader of English pharmacy, he is in no way associated with this journal, and our statements, however surprising they may seem, are always truthful.

NOBLE TRADESMEN.—We beg to acknowledge a communication from the Right Honourable the Earl of Dunmore offering us milk at 4*d.* per quart. We should have been glad to encourage the noble Earl, who, we have no doubt, is a most deserving person, but for the present we are quite satisfied with our existing purveyors. His Lordship might call occasionally, however, when he is passing.

ENEMATA OF PEPTONES.—M. Henninger (*Medical and Surgical Reporter*) gives the following formula for enemata of peptones:—Five hundred grammes of very lean meat, minced fine, are placed in a glass receiver, on which are poured 3 litres of water and 30 c.c. of hydrochloric acid, of density 1 15; to this are added 2½ grammes of the pure pepsine of commerce, which will digest about 200 times its weight of moist fibrine. It is digested during twenty-four hours at a temperature of 113° Fahr., either in a water-bath or a stove; it is then decanted into a porcelain capsule, brought to boiling-point; and then an alkaline solution is poured into it (250 grammes of carbonate of soda to 1,000 grammes of water), until it shows a very slight alkaline reaction. About 160 to 170 c.c. of this solution must be added to it. When this result is obtained, the boiling liquid is passed through a fine linen cloth, the insoluble residue being expressed; and this liquid, which amounts to about 2½ litres, is reduced in the water-bath to about 1¾ litre. Half of it is administered every day in three enemata, adding 200 grammes of white sugar for the twenty-four hours. The whole of the meat is not dissolved; the fat, the tendons, the connective and elastic tissues form an insoluble residue of about a third of the meat used.

Reviews and Literary Notes.

The Food We Eat: Why We Eat It, and Whence It Comes. By J. Milner Fothergill, M.D., edited by A. Beatrice R. Fothergill. London: Griffith & Farran. Pp. 140. 1*s.*

In this small volume Mrs. Fothergill has edited certain contributions of her husband on the subject of food which have appeared in the *Burlington Magazine*, prefacing them with an abridgment of the articles on digestion which Dr. Fothergill wrote for this journal last year. The articles comprise the comments of an accomplished physician on the various kinds of food and drink which we are accustomed to consume, with chapters on the social characteristics of feeding, on infants' and invalids' foods, and finally on the dietary of A.D. 2,000. All is written in the pleasant readable style which Dr. Fothergill has so successfully cultivated, and, along with the pleasure of reading, a good deal of the most modern knowledge in regard to the action of food is assimilated. In his prophetic vision of the dietary of A.D. 2,000 Dr. Fothergill foresees the degenerate descendants of Hengist and Horsa living on milk and stewed fruit; brains without stomachs; artificial teeth only for purposes of mastication; and sipping doses of emulsionised oil between meals. Dr. Fothergill attributes this result to the nervous tension of the present and the future; will it not be partly due to the theoretic and sometimes fanciful and sensational discoveries of food analysts and authors?

The Mother's Guide in the Management and Feeding of Infants. By John M. Keating, M.D, Lecturer on the Diseases of Children at the University of Pennsylvania. London: Henry Kimpton.

In *The Chemists and Druggists' Diary* we have lately recommended the sale of books as a promising and appropriate auxiliary trade for chemists and druggists. We notice that Mr. Kimpton, the well-known medical bookseller of Holborn, in suggesting the above work as suitable for chemists' sale, offers to supply copies "on sale or return on liberal terms." The book is quite of the class which chemists might sell with credit. It supplies with much precision details of the treatment of infants which young mothers ought to know and generally desire to know. It may be seriously open to question whether a child brought up with such elaborate care as Dr. Keating recommends is likely to grow up into such vigorous adolescence as might result from a more hardy training. Certainly, the hardiest races of the world's history have not been those who have been fed with milk supplied in air-tight cans, always from one cow, and whose fathers have carefully examined the cow's food and surroundings before selecting one for its important office. Still the book does give generally excellent advice on the management of a child during its important first three years of existence. Its sale here, however, either by chemists or booksellers, is not likely to be large, as there is nothing in it to justify the fancy figure of 3*s.* 6*d.* at which it is priced. Another fault which it is necessary to mention is that no attempt has been made to revise it for English readers. Allusions to medicines unknown out of America; indications of dose, such as "as much as will lie on a dime"; and advice to take the child to the Catskill Mountains rather lose their value when they have crossed the Atlantic.

Companion to the British Homœopathic Pharmacopœia, arranged as a Dictionary. London: Keene & Ashwell, 74 New Bond Street.

The chemist who has or who is likely to have a trade in homœopathic medicines will find Messrs. Keene & Ashwell's Companion to the Homœopathic Pharmacopœia of considerable service. He will learn from that the process of preparation of all the usual and of most of the unusual homœopathic preparations. In most cases this Companion will render unnecessary the use of the Homœopathic Pharmacopœia, besides that in many respects it supplies more information of the kind required for reference by the homœopathic chemist.

Medical Education and Practice in all Parts of the World. By Herbert Junius Haldwicke, M.D. London: Churchill.

In this book, says the author, "will be contained the conditions under which a medical practitioner may practise his profession, and the requirements for the medical degree at the universities and medical corporations in almost all the civilised countries of the world." This promise is kept, but the proportion we should like to see is not maintained. In a book of reference we look for full information on those points most difficult for ordinary persons to learn about. We are content with brief statements of things that everyone knows or can easily learn, and we willingly sacrifice their company if their room is taken by more abstruse matters. But of the 209 pages 65 are devoted to the British Isles, and only two and a half to Austro-Hungary, three to France, five and a half to India, of which three and a half contain an account of Indian medical science and literature taken from Dr. Wise's "Medicine among the Asiatics." The United States monopolise pages 135 to 190. We miss in the passages relating to France and the other European countries the accounts of the principal hospitals so fully given in the British section.

All that we have said means only that the book is not perfect. It contains much information not easily accessible, and likely to be useful to all looking abroad for a niche.

We have received from Messrs. Friedländer & Sohn, of Carlstrasse, Berlin, N.W., a catalogue of recent and ancient works on the botany of the Phanerogams. The catalogue fills 36 pages, with an average of 45 books on a page, or more than 1,500 entries. Books in all languages are included, and the catalogue is sent post free on application.

Messrs. Griffith & Farran have announced a work entitled "A Bookseller of the Last Century: being Some Account of the Life of John Newbery and of the Books he published," with a chapter on the later Newberys, by Mr. Charles Welsh. "The philanthropic publisher of St. Paul's Churchyard," as Goldsmith, in his "Vicar of Wakefield," has called him, is a figure of some interest in the literary history of the eighteenth century. He is not only to be remembered as the publisher of "Goody Two Shoes," and kindred works. He was intimately associated with Johnson, Goldsmith, Smart the divine, and many others, and he busied himself with projects of a seemingly more important character than the publication of works for the young. He was an original part owner of Dr. James's fever powder. The volume will be supplemented by an alphabetical list of books published by the Newberys from about 1730 to 1800, which the author has spent some years compiling.

A second edition has been published of Dr. E. B. Shuldham's "Chronic Sore Throat" (E. Gould & Son). It is a gossipy little work, which does not weary the reader much with medical matters, but discourses chiefly on the hygiene of the voice and the topics which result from it.

We have received a bound volume containing a verbatim report of the evidence given in the case of "Howell *v.* West and Jones." This case was tried before Lord Chief Justice Cockburn in April, 1880, and had reference to the death of the son of the plaintiff (a medical practitioner) at the Medical College at Epsom. The plaintiff alleged neglect and improper treatment against the defendants, who were respectively the head master of the school and the medical attendant. The jury found a verdict for the defendants, but we presume this volume is printed and circulated at the expense of the plaintiff.

The Society of Chemical Industry have issued the first number of a monthly journal which is to furnish a report of their proceedings and give abstracts of all important con-

tributions bearing on chemical industry published throughout the world. The journal is edited by Mr. Watson Smith, of Owens College, Manchester, with Professor Roscoe and Messrs. Eustace Carey, L. Mond, J. Spiller, T. Tyrer, and G. E. Davis as a publication committee. The first number of this journal is of a high order of excellence, and of great interest to persons practically engaged in the working of chemical processes. This number contains Professor Abel's introductory address to the London section of the Society, and Dr. Messel's paper on "Specific Gravity Tables," with the discussion thereon; Dr. Hurter's paper on "The Dynamic Theory of the Manufacture of Sulphuric Acid," read at a meeting of the Liverpool section; the report of the Society of German Alkali-makers; a communication from Professor Baeyer to Professor Roscoe on the present position of the manufacture of artificial indigo; and a large number of abstracts of chemical papers, patents, &c., very well prepared and classified. The journal, if kept up to this standard, will ensure the permanance of the Society.

THE Calendar of the Pharmaceutical Society of Great Britain for 1882 is published this year in stiff covers. It supplies all information respecting the examinations, the Pharmacy Acts, the bye-laws and the regulations of the Society generally, and in an appendix gives copies of many Acts of Parliament important to pharmacists. Published by the Pharmaceutical Society.

Scientific Notes:

On Chemistry, Pharmacy, Botany, Materia Medica, &c., Original, Selected, and Translated.

Glycerine from Soap-lyes.

THE following is the process patented by MM. Thomas and Domeyer for the extraction of glycerine from soap-lyes. It does not seem to have practically answered yet. First the lye is evaporated to a fifth of its volume; then an excess of sulphuric or other acid is added, causing the fatty acids to rise to the surface. They are removed, the liquid is neutralised by alkali, and the albuminous matters are precipitated and may be separated by filtration. By further concentration of the filtered liquid the salt and water are climinated, and the crude glycerine which is left is washed with a hydrocarbon, with bisulphide of carbon, with ether, or with some other solvent which does not dissolve glycerine. Afterwards the last traces of hydrocarbons are removed by blowing air through the glycerine.—*Moniteur du Produits Chimiques.*

The *Chemiker Zeitung* says of this process that it is a beautiful idea if it were not that the fatal solubility of salts in glycerine preventing their removal did not stand in in the way of its success.

Reaction of Carbonic Oxide Gas with Sodium Monoglycerate.*

ON passing a stream of dry carbonic acid gas over sodium monoglycerate heated to 185° C. to 190° C. in a glass tube, and carefully collecting and rectifying the products of distillation, W. F. Loebisch and A. Loos find the chief product to consist of propane alcohol, 13·3 per cent. of the glycerine employed being converted into this body. The secondary products are methyl, alcohol, carbonic and formic acids, and normal butyric acid.

Preparation of Sodium Diglycerate.†

SODIUM monoglycerate may be prepared either by acting upon anhydrous glycerine with metallic sodium or by the mutual reaction of sodium ethylate and glycerine, the latter method being the best. Up to the present all attempts to replace a further atom of hydrogen in glycerine with an atom of sodium have failed. The authors of this paper, W. F. Loebisch and A. Loos, have, however, succeeded in effecting this substitution by treating alcoholic sodium monoglycerate with sodium ethylate, and boiling the mixture for several hours under a stream of hydrogen gas in a vessel connected with an inverted Liebig's condenser. Thus prepared and kept under hydrogen, sodium diglycerate forms a glossy white porous mass, which soon crumbles to a crystalline powder. Exposed to the air it absorbs moisture with great avidity, deliquescing finally to a corrosive syrup. Sodium diglycerate melts at 220° C., with the formation of bubbles; at 270° C. it admits of distillation, the distillate consisting of a brown liquid.

* *Monatshefte für Chemie*, Band 2, Heft 10, December, 1881.
† *Monatshefte für Chemie*, Band 2, Heft 10, December, 1881.

To Deodorize Carbon Bisulphide.

E. ALLARY says that carbon bisulphide with a pure ethereal odour can be best obtained by shaking the common article with a strong solution of potassium permanganate till the permanence of the purple colour shows that the reducing action has ceased. The sulphide must then be washed with water, separated from the watery solution, filtered, and kept in the dark.—*Bull. Soc. Chim.*

Picrotoxine.

IN a paper sent to the *Monatshefte für Chemie*, Band 2, Heft 10, December, 1881, L. Barth and M. Kretschy prove the substance hitherto known as picrotoxine to consist of a varying mixture of two substances of a definite chemical composition, the one poisonous, for which they have retained the name of picrotoxine ($C_{15}H_{16}O_6$), the other perfectly harmless, which they call picrotine ($C_{23}H_{30}O_{12}$).

Artificial Indigo.

THE first number of the journal of the Society of Chemical Industry contains an interesting letter to Professor Roscoe, from Professor Baeyer, the discoverer of artificial indigo. The letter is specially interesting as a comment on the *canard* circulated through the Press, announcing the failure of the invention and the abandonment of the manufacture of artificial indigo. We give an abstract of the letter. Professor Baeyer has recently visited the Baden Aniline and Soda Works, where the new old dye is manufactured.

The manufacture of artificial indigo depends on the preparation of ortho-nitro-phenyl-propiolic acid, known in commerce as propiolic acid. The first necessity in its preparation is a cheap cinnamic acid. This is now made by the Baden Company by fusing benzyl chloride with sodium acetate, dispensing with the use of acetic anhydride and oil of bitter almonds. "I was amazed to see hundredweights of cinnamic acid undergoing treatment with nitric acid, for I remembered how difficult it was to work up a single pound in the laboratory." Cinnamic acid is converted into ortho-nitro-cinnamic acid in two processes. First it is converted into its ethyl ether, which is then treated with a mixture of nitric and sulphuric acids, certain precautions being observed. The solid mixture of ortho and para nitro ethers thus obtained is heated with alcohol, the ortho ether being dissolved and deposited from alcoholic solution in large yellowish crystals. This, on saponification, yields ortho-nitro-cinnamic acid. The propiolic acid is obtained from this by treatment with bromine, by which means the dibromide is formed, which is then dissolved in caustic soda ley with the formation of sodium propiolate. The acid itself is precipitated from the solution of the soda salt by means of an acid, and is sent to market as a paste containing 25 per cent. of acid. The acid is what is used by the dyer. A mixture of propiolic acid and sodium xanthate, properly thickened, is printed on the cloth. Exposure to the air (ageing) develops the colour, which is fast and exhibits the characteristic tints of indigo in both light and dark shades.

The process works with perfect regularity, the only serious imperfection being the loss of 40 per cent. of the cinnamic acid in the form of para-nitro-cinnamic acid. Still, 200 kilos. of paste are turned out daily, which is sold at 10*s.* a kilo.

Preparation of Metallic Rubidium and Cæsium.

Liebig's Annalen der Chemie, Band 211, Heft 1, January 4, 1882, contains an interesting paper by Dr. Carl Settberg, on

the preparation of the very rare metals rubidium and cæsium. Cæsium, in fact, has never yet been separated.

The author starts from the crude alum, which occurs as a by-product in the preparation of lithium oxide from lepidolite, and his first step is to separate out the alums of the rare bases, which he effects by means of fractional crystallisation, the method being based upon the fact that the less soluble alums are insoluble in concentrated solutions of the more soluble ones. In this way each alum is obtained for itself in a state of purity. The next step consists in converting the respective alums into the salt most suitable for the preparation of the metal, which differs in the case of each metal. The third and last step is the preparation of the metal itself. The process is as follows:—

Preparation of the Alums.—Three cwt. to 4 cwt. of the crude alum above-mentioned are dissolved in a capacious vat with just sufficient water to produce a liquid showing a specific gravity of 20° Beaumé at the boiling-point. After settling, the clear liquid is poured into another vessel, which is then well closed, and left for 12 to 14 hours to crystallise. When this period has elapsed the supernatant liquid has a temperature of 45° C., and is completely free from rubidium and cæsium. This is poured off, and can be worked for potash alum. The crystalline deposit (of which it is best to collect several quantities of the kind before working it up) is purified according to the same method, the quantity of water taken being diminished, and the temperature of crystallisation lowered in proportion as the solvent gets weaker in potash salt. When at last the mixture of the rubidium and cæsium alums has been entirely freed from potash alum, the two former are separated from one another in precisely the same way, viz., by crystallising out the cæsium alum from its solutions in rubidium alum mother liquor.

Preparation of Rubidium and Cæsium Salts.—Boiling solutions of the respective alums are treated with the pure barium hydrate, whereby both sulphuric acid and aluminium are removed. The respective hydrates of rubidium and cæsium are then neutralised with the acid the salt of which is required. Cæsium cyanide, which salt is required for the preparation of metallic cæsium, is prepared by conducting perfectly anhydrous hydrogen cyanide into an alcoholic solution of cæsium hydrate.

Preparation of Metallic Rubidium.—Metallic rubidium can be prepared by reducing its carbonate with charcoal. For this purpose 1,500 g. of rubidium tartrate are mixed with 150 g. of calcium carbonate and the requisite quantity of sugar, the percentage of carbon in which must be previously determined and employed according to the equation $Ca\,Co_3 + C = CaO + 2Co$. The mixture is then distilled in an apparatus resembling that used in making potassium, for the details of which we must, however, refer the reader to the original paper. The author gives no description of rubidium, probably because such descriptions already exist in the ordinary text-books.

Preparation of Cæsium.—Cæsium does not admit of being separated by reduction with charcoal, and, as is well known, even electrolytic methods have hitherto proved futile owing to the great oxidability of the metal. By taking certain precautions the author has, however, at last succeeded in obtaining this metal by means of electrolysis from its cyanide. Four parts of cæsium cyanide and 1 part of barium cyanide are fused in an earthenware crucible, 20 mm. wide and 45 mm. deep, and the fused mass exposed for half an hour to the action of a sufficiently strong electric current. On cooling, the crucible is broken under petroleum, and the particles of metallic cæsium, which are found clinging to the crucible on all sides, are filtered through linen and fused together. These operations are all carried on under petroleum.

Metallic cæsium has an appearance quite similar to the other metals of the alkalies; it has a silver-white colour, and is very soft at the ordinary temperature. Thrown upon water it takes fire, and floats about like potassium and rubidium. It takes fire very quickly in the air, if its surface is not protected by a film of oxide or petroleum. Owing to its great density (sp. gr. = 1·88 at 15° C.), when placed beneath petroleum only very small particles assume the globular form, the larger particles conglomerate to form globules. Cæsium melts at about 26·5° C.

Solubility of Lead Sulphate in Basic Lead Acetate.

According to Dr. K. Stammer (*Chemiker Zeitung*, January 26, 1882), it appears that lead sulphate is soluble in basic lead acetate, for when a not too concentrated solution of a sulphate is precipitated by basic lead acetate, and an excess of the latter added, the precipitate formed is redissolved. The author finds that this reaction does not apply to normal acetate of lead (sugar of lead), for upon adding acetic acid to the solution of lead sulphate in basic lead acetate, lead sulphate is again separated out.

Galangine and Alpinine.

E. Jahns has continued his researches on certain substances found by him in the root of *Koempferia galanga* (see this Journal, December, 1881, page 528), and describes in the *Berichte der deutschen Chemischen Gesellschaft*, January 9, 1882, the two other substances, galangine and alpinine.

Galangine is separated from alpinine by repeated crystallisation from absolute alcohol, in which the latter is easily soluble.

Galangine ($C_{15}H_{10}O_5$) crystallises from its solutions in absolute alcohol, according as the operation has been quick or slow, in narrow hexahedral plates, or in flat columns, containing half a molecule of alcohol of crystallisation, which disintegrate in the air, becoming opaque. From dilute alcohol of 60 to 80 per cent., galangine crystallises in pale-yellow needles containing 1 molecule of water of crystallisation, and which are permanent in the air.

Galangine melts at 214° C. to 215° C, and when the temperature is carefully raised, a part sublimes without decomposition. Galangine is almost insoluble in water, it is easily soluble in ether, or in 68 parts of alcohol of 90 per cent. in the cold, and in 34 parts of absolute alcohol. It is difficultly soluble in benzole, and slightly soluble in boiling chloroform.

Galangine has a great resemblance to koempferide in its reactions: it dissolves to some extent in alkalies, with a yellow colour, and also in a solution of sodium carbonate, without, however, like koempferide, expelling the carbonic acid from that salt. Its reactions with iron perchloride, lead acetate, and with silver and copper salts are similar to those of koempferide. The two substances differ, however, in respect to their deportment with sulphuric acid. Pure concentrated sulphuric acid dissolves both koempferide and galangine with a yellow colour; the solution of the former exhibits fluorescence, while that of the latter does not do so. Fuming sulphuric acid dissolves koempferide with a green colour, which passes over into red, while the solution of galangine retains yellow colour unaltered.

Alpinine is obtained by fractional crystallisation from its solution in alcohol of 70 to 80 per cent. in the form of pale-yellow needles.

With the exception of its lower melting-point (172° C. to 174° C.) and its greater solubility, it exhibits a complete resemblance to koempferide in all its reactions.

With the discovery of these three glucoside-like bodies in the galanga root, the author does not consider that the subject is exhausted, and intends to investigate the matter further.

A Base Homologous with Chinoline.*

O. Doebner and W. Miller, by acting upon aniline with ethene alcohol (glycol), nitro-benzole, and sulphuric acid, have formed a base homologous with chinoline.

The pure base, which may be represented by the formula $C_{10}H_9N$, is a colourless refractive liquid, with a smell resembling chinoline.

It boils at 238° C. to 239° C. It yields well-crystallised salts, which are mostly soluble in water. The authors reserve a further description for a future paper.

Solubility of certain Salts of Chinoline.

Dr. Donath, in a note sent to the *Pharmaceutische Zeitung*, January 7, 1882, speaking of two new preparations of chinoline, viz., the salicylate and the paraoxybenzoate, which

* *Berichte der deutschen chemischen Gesellschaft*, January 9, 1882.

are now being offered by the more important chemical houses, says that, interesting as the combinations of two such antiseptic substances as chinoline on the one hand and salicylic acid or paraoxybenzoic acid on the other may be theoretically, still their extreme insolubility is a great disadvantage for their internal use. Chinoline salicylate is not completely soluble, even in 100 parts of water, and the paraoxybenzoate not in 120 parts.

There is, however, a salt, chinoline tartrate, which, lying as regards solubility between the extremely insoluble salts above mentioned and the very deliquescent compounds of the base with mineral acids, is the most suitable compound for internal purposes.

Testing Benzoic Acid with Potassium Permanganate.*

Under the heading "Commercial Benzoic Acid" we have published (December 15, 1881, page 530) an abstract of a paper by Carl Schacht, in which he attempted to prove that there was a good deal of adulteration in acidum benzoicum e gummi. C. Schacht's paper has caused a good deal of stir in the circles affected, and now it seems that C. Schacht had in his investigations ignored the presence of cinnamic acid. O. Schickum has re-tested C. Schacht's experiments, and finds that pure benzoic acid has little or no effect on potassium permanganate, while cinnamic acid bleaches it at once. The author has not come across a true gum benzoic acid which did not contain cinnamic acid, but we have at present no proof that *every* gum benzoic acid contains cinnamic acid. Further, the mere bleaching of potassium permanganate by a benzoic acid affords no proof that such has been prepared from gum benzoin, because the addition of a small quantity of pure cinnamic acid to the benzoic acids obtained from urine and toluol would cause these to produce the same effect.

Reihlen's New Method of Wine-making.†

It is well known that the art of making wine according to the old method practised over 1,000 years ago, although for the most part still in vogue, is no longer adapted to the requirements of the present day. Owing to the various diseases to which the vine has of late become a prey, grapes have increased considerably in value, so that it is of great importance to get the utmost out of them. By the old method, a very considerable quantity of valuable substances to which wine owes its aroma, body, and colour, remain in the marc after musting.

Adolph Reihlen, of Stuttgart, has patented a simple and profitable process which opens a new era in wine industry, because it affords a means of thoroughly utilising the grapes. An increase in the percentage absolute quantity of wine produced is attained, without, as is the case by Petiot's and Dr. Gall's method, affecting the quality of the wine.

Reihlen operates as follows:—The berries are gently pressed, the must heated to boiling, and the marc mixed with the boiling must for three or four minutes, whereby the colouring matters, tartar, aroma, and other valuable substances are extracted, and at the same time the injurious alhuminous substances are rendered insoluble. The marc is, however, not quite exhausted by this process, but is capable of imparting the rest of its still valuable contents to weak wines, so-called fruit wines, and saccharine liquids generally. By Reihlen's method (which has been in operation since 1880), when purple grapes are worked up for wine, a deep bluish-red must is obtained in a few minutes without fermentation, the quantity of colouring matter extracted by the boiling must being from three to seven times as much as that extracted according to the old method after three months' fermentation. Reihlen further prepares the marc of purple grapes in such a way that even after years this will impart a colour to red wines which have become bleached, or revive the taste of deteriorated wines.

What has been said of red wines applies equally to white wines, and the bouquet peculiar to the Riesling and Traminer grapes admits of being imparted to the must from other kinds of grapes. Another peculiarity of Reihlen's process consists in using the carefully-edulcorated grape-skins, which are taken out while hot, drying them, and using them as a ferment. Reihlen states that grape-skins prepared in this way excite in must and in sweetened old and young wines a fermentation of the sugar without any formation of yeast. The explanation of this apparent anomaly may be, perhaps, found in the theory that the ferment adheres very closely and persistently indeed to the skins, the molecules of sugar being only brought into contact with it by means of the circulation of the liquid caused by the formation of alcohol and heat of fermentation. It then appears that the ferment is possessed of an extraordinary power of splitting up sugar. The result of these mutual combinations is that the fermenting wine always appears clear.

Wine authorities are of one mind as to the value of Reihlen's discovery, and it seems likely that wine-making according to his method will soon become universal. The Royal and Imperial Œnological Institute in Stuttgart is now testing the matter.

Hydrogen Peroxide.

Several chemical manufacturers are now giving their attention to the preparation of hydrogen peroxide. They offer a 3 per cent. (by weight) aqueous solution of it at about 1*s.* 6*d.* to 3*s.* 6*d.* per kilo., according to the degree of purity.

It is now a recognised fact that in the process of air-bleaching it is not ozone, but hydrogen peroxide, which produces the result.

Hydrogen peroxide is used in bleaching hair, feathers, silk, wax, ivory, &c. It is also probable that an important application of it will soon be found in therapeutics. Its utility in the treatment of wounds has already been established. A Hanoverian physician has already used it with success in the treatment of tuberculous abscesses and syphilis.

The advantage hydrogen peroxide possesses over other disinfectants is—(1) it is odourless; (2) it easily disengages oxygen, nothing remaining but pure water; (3) absence of injurious effects upon the animal organism.

In the form of spray in surgical operations or diphtheria, and for disinfecting dwellings and clothing, &c., it is expected to prove serviceable. It is now prepared cheaply and in a state of great purity.

Denaturalisation of Alcohol.

The *Chemiker Zeitung* of January 12, 1882, makes the following comment upon the denaturalisation of alcohol, or spirit of wine, for industrial purposes in general, and especially as carried out in Germany.

Since alcohol is employed in nearly every branch of industry its denaturalisation is important, both for the manufacturer and the Excise. The object is to render spirit undrinkable, on the one hand, while at the same time the substance added for this purpose must not affect its use in the various industries.

In the face of the fact that this object had not as yet been attained, the Excise (German), after communication with certain manufacturers, have lately laid the matter before a commission appointed for the purpose, the results of which have been published* by three members of the same—viz., A. W. Hofmann, G. Krämer, and L. Löwenberg.

The commission suggest the establishment of a central authority for controlling and regulating all such matters. Considering the variety of industries affected, it seems to be almost a matter of impossibility to select one single substance as denaturaliser. A substance of the kind would have to meet the following requirements:—A small quantity of it must suffice to render alcohol perfectly undrinkable. It must be cheap, easy of detection, and very difficult to separate when once mixed. It must not in the least impair the use of the alcohol thus denaturalised in any industry, or at any rate with only a minimum of exception. The substance which most nearly fulfils the requirements is wood spirit,

* *Pharmaceutische Zeitung*, January 14, 1882.

† *Wiener Freie Presse*, through the *Pharmaceutische Zeitung*.

* *Verhandlung des Vereins zur Beförderung des Gewerkefleisses*, lx. 557.

such is used in England and Holland, where 10 per cent. is added to the spirit to be denaturalised.

Crude wood spirit contains besides methyl alcohol, which, when pure, is closely similar to ordinary alcohol, acetone, allyl alcohol, and wood oils of a far higher boiling-point than these other bodies. These substances are all possessed of a most penetrating smell, for which reason they are most suitable for purposes of denaturalisation. Traces of them suffice to render spirit undrinkable, and they are easily detected, a solution of bromine being bleached by them, but not by pure methyl alcohol. The quantity of bromine thus bleached is, however, but an approximate criterion of the amount of oils of high boiling-point contained in the wood spirit, and this is especially felt in Germany, where no law exists as to the limit of oils of the kind in wood spirit, for which reason the manufacturers of the article employ in its manufacture residues which are unserviceable for any other purpose. In England and Holland the quality of the wood spirit is regulated, the Dutch Government being, in fact, the vendor of this article.

However, for a number of industries, as, for instance, in the manufacture of percussion caps, lake colours, pure chemicals, &c., the employment of alcohol denaturalised with wood spirit (even such containing but 5 per cent., as was at one time suggested) is objectionable, as impairing the quality of the manufactures.

The following suggestions have been made as to the substitution of certain other substances in the denaturalisation of alcohol in certain cases, some of which are in force.

In the case of tar colour works, manufactories of lake colours, and percussion caps, the alcohol required by such might be denaturalised by adding ½ per cent. of oil of turpentine, or of 0·025 per cent. of some animal oil. The alcohol required in the preparation of collodion, tannic, and salicylic acids might be denaturalised by 10 per cent. of sulphuric ether. That required in vinegar works and in the manufacture of acetates and white lead, might be previously treated with water and vinegar. Allyl alcohol alone has been suggested as a universal denaturaliser for most cases, but as has been stated, the presence of acetone in wood spirit is the chief cause of evil, wood spirit freed from acetone would perhaps be found to be the most advantageous substance for denaturalising alcohol in cases where it would pay to do so.

From a business point of view, one great disadvantage of the employment of wood spirit in Germany consists in the comparatively slight difference in price between pure and methylated alcohol, the former not being more than 1½*d.* or ¾*d.* dearer per litre than the latter. This is due to the insufficient compensation on the part of the Excise, the difference being about 12 times greater in Holland and 24 times greater in England than in Germany. As regards the value of wood spirit itself, the article is subject to much fluctuation. Some time ago the price was 7*l.* 10*s.* to 8*l.* per 100 kilos., which was owing to the demand for pure methyl alcohol in the manufacture of a number of new tar colours, especially methylene blue. The price is now about 6*l.* per 100 kilos. A further fall is expected from the American competition and the preparation of methyl alcohol from molasses.

London Fog.

Otto Hehner, in a letter to the *Times*, dated January 27, gives the following results of analyses of London fog on January 25, when the fog was dense and dark.

The observations were taken about every hour, commencing at 11 A.M.

The thousand volumes of air, taken in Billiter Street, contained 10·84, 8·83, 9·63, 8·93, 9·45, 9·56, 4·77, and 7·78 volumes of carbonic acid gas.

When it is remembered that the normal quantity of carbonic acid in pure air is not quite 4 parts per 10,000, and that sanitarians advise us to keep the amount of that gas in our dwelling-houses below 6 by proper means of ventilation, an idea of the proportion of impurity in City air on foggy days may be gathered.

The lowest of the figures above referred to—viz., 4·77—was obtained during a momentary lifting of the fog, the carbonic acid again rising rapidly with increasing darkness.

Practical Notes on Pharmacy.

Hydrobromic Acid.

The *Pharm. Zeitshr. f. Russl.*, noting the varying strengths of the hydrobromic acid in the market, and the desirability of an invariable percentage being dispensed, suggests 25 per cent. as being the same strength as that of the then official hydrochloric acid. The following table of specific gravities and strengths of hydrobromic acid has been prepared by J. Biel, after verification at 15° C.:—

P.c.		P.c.		P.c.		P.c.	
1	1,0082	14	1,110	27	1,229	39	1,362
2	1,0155	15	1,119	28	1,239	40	1,375
3	1,0230	16	1,127	29	1,249	41	1,388
4	1,0305	17	1,136	30	1,260	42	1,401
5	1,038	18	1,145	31	1,270	43	1,415
6	1,046	19	1,154	32	1,281	44	1,429
7	1,053	20	1,163	33	1,292	45	1,444
8	1,061	21	1,172	34	1,303	46	1,459
9	1,069	22	1,181	35	1,314	47	1,474
10	1,077	23	1,190	36	1,326	48	1,490
11	1,085	24	1,200	37	1,338	49	1,496
12	1,093	25	1,209	38	1,350	50	1,513
13	1,102	23	1,219				

Compound Solution of the Hypophosphites of Iron, Soda, Lime, and Magnesia.

Mr. Adam Gibson read a paper on this subject at the meeting of the North British Branch of the Pharmaceutical Society on January 11. Dr. Frederick Churchill, of the Victoria Hospital for Children, London, published a satisfactory formula in the *British Medical Journal* for 1880. It was as follows:—

	Grains in ℥j 100		Grains in fl. ℥j.
Ferrous hypophosphite ($FeOPH_2O_2+6H_2O$) ..	2·77	..	1·6
Calcium hypophosphite ($Ca_2PH_2O_2$)	3·5	..	2·0
Sodium hypophosphite ($NaPH_2O_2+H_2O$) ..	3·5	..	2·0
Magnesium hypophosphite ($MgPH_2O_2+6H_2O$) ..	1·99	..	1·1
Hypophosphorous acid (H_3PO_2)	1·66	..	—
Water	86·58	..	—
	100·00	..	6·7 Grains mixed salts.

The magnesium salt was substituted for the potassium, as some objections attend the administration of the latter. The correct formulæ for the ferrous, calcium, and magnesium hypophosphites are:—

$$Fe(PH_2O_2)_2+6H_2O;\ Ca(PH_2O_2)_2;\text{ and } Mg(PH_2O_2)_2+6H_2O;$$

The amount of hypophosphorous acid present in the solution is therefore understated to the extent of one-half in the case of the ferrous and magnesium salts, and in the calcium salt to the extent of three-fourths.

It was found that the other hypophosphites could be prepared by the double decomposition of a sulphite and the calcium salt. If this was effected in the cold, sulphuretted hydrogen was formed in a little time, perhaps by the reducing action of the hypophosphorous acid on the sulphates. By dissolving all the salts in hot water, the decomposition is completed at once, and sulphuretted hydrogen is not formed. The hyphophosphorous acid supplied by the wholesale houses was found to contain about 30 per cent. of acid (varying from 17 per cent. upwards), estimated by converting it into phosphoric acid and combining it with lead. The following is a working formula which produces a clear permanent solution. It may be mixed with simple syrup, claret, and glycerine in any proportions, but the salts are gradually deposited from mixtures containing an appreciable percentage of alcohol.

2 oz. 382 grs. $FeSO_4,7H_2O$ } = 2·77 $Fe(PH_2O_2)_2,6H_2O$
1 oz. 332 grs. $Ca(PH_2O_2)_2$ }

5 oz. 364 grs. $Na_2SO_4,10H_2O$ } = 3·5 $NaPH_2O_2,H_2O$
3 oz. 35 grs. $Ca(PH_2O_2)_2$ }

2 oz. 22 grs. $MgSO_4,7H_2O$ } = 1·99 $Mg(PH_2O_2)_2,6H_2O$.
1 oz. 182 grs. $Ca(PH_2O_2)_2$ }

3 oz. 368 grs. $Ca(PH_2O_2)_2$ = 3·5 $Ca(PH_2O_2)_2$.

5½ fl. oz. $HPH_2O_2,70H_2O$ = 1·66 HPH_2O_2.

Dissolve the whole of the calcium hyphophosphite required to decompose the sulphates (6 ounces 112 grains) in 50 ounces of water; bring the solution nearly to boiling-point, and acidify with half an ounce of the hypophosphorous acid; then stir in the ferrous, sodium, and magnesium sul-

phates; double decomposition ensues almost immediately. After stirring two or three minutes, throw the whole on a paper filter, and wash the precipitate with hot water to 70 ounces.

Dissolve the 3 ounces 368 grains calcium hypophosphite in 25 ounces of water; filter, mix the filtrates, add to the solution the remaining 5 ounces of hypophosphorous acid, and make up with water to 100 ounces.

During a few days after its preparation it deposits a minute quantity of calcium sulphate, from which, however, it may wholly be freed by decantation or filtration.

Cod-liver Oil.

M. P. Carles has communicated to the Medical Society of Bordeaux a study of cod-liver oil, which we find in the *Répertoire de Pharmacie* (January 10, 1882). The author comments on the remarkable progress which has been made since the introduction of this medicament in regard to its appearance, odour, and taste, and he applies his experiments to answer the question whether, in the course of the improvement effected, there has been any sacrifice of medical efficacy. The original method of preparing the oil was to throw the livers—always more or less putrid, and mixed with blood and remnants of the entrails of the fish—into a large tub, leaving putrid fermentation to effect the exudation of the oil. But this process did not yield all that might be obtained, and the residue was therefore heated and pressed. The stronger the heat the more abundant, and, at the same time, the more acrid and the blacker was the oil. But improvement soon set in. At first attempts were made to purify the oil thus obtained by potash or by animal charcoal, but it was soon found better in all respects to purify the source, and consequently greater care was taken in the manufacture. Now livers are carefully freed from blood, and from all attachment of entrails, and whatever heat may be necessary to facilitate the exudation of the oil from the hepatic cells is carefully regulated by a steam or sand bath. The old wooden tub, which offered an inviolable asylum for germs of putridity and rancidity, is displaced by enamelled metallic, or even glass, vessels, and an oil is now produced which cannot cause disgust except to people with an invincible repugnance to the slightest fishy flavour. It is recognised that, other things being equal, this is a clear therapeutic gain. A few experiments will soon show that the pale limpid oil is much more easily digested than the brown oil, as evidenced by the far less frequent eructations. That it is more assimilable is shown by adding 5 grammes of pancreas to 50 grammes of the oil. Emulsions are formed with ease and rapidity in proportion as the oil is pale. The same relations are manifest in regard to acidity. M. Carles believes this to be a test of the therapeutic purity of oil worthy of more attention. He finds samples vary from ·01 to 1·80 per cent., calculated in acetic acid strength, the extremes being the palest and the darkest, respectively, the acidity increasing in exact relation to colour. Saponification may also be produced in analogous relation. If various samples, say, 150 grammes of each, be placed in a series of vessels, and to each be added 50 grammes of solution of caustic potash, it will be found that the darkest oil is solidified in less than five minutes, while the palest will remain limpid for five hours. In the former case there is an immediate disengagement of heat and a very disagreeable odour; in the latter there is no heat and scarcely any odour. But the question of chief interest is in respect to the mineral constituents of cod-liver oil. Certain chemists have found iodine in cod-liver oil of all shades, but Delattre and Girardin could find no trace of it in oil from cods fished in the spring. There has been little agreement, but a general tradition ascribes to the dark oil a larger proportion of iodine than the pale. M. Carles believes that the different opinions partly arise from faults of experiment. The potash used for saponification very frequently contains traces of iodine, and the reason, he supposes, why more has been found in the dark than in the pale oils would be that the iodine is more abundant in the deposit than in the fluid. In any case the proportion in neutral filtered oils has only been a few tenths of a thousandth of 1 per cent., and he believes it would be rash to conclude that the oil owes any medicinal virtue to such a proportion. Phosphorus is the other mineral which has been supposed to yield some virtue. This exists in the condition of phosphate of lime, but only to the extent of a few hundredths of 1 per cent., and he has the same opinion in regard to the therapeutic value of this constituent. His experiments lead him to believe that the presence of both iodine and phosphorus in cod liver is due to the development of acid in the oil, which acts on the hepatic tissue. He does not believe that the infinitesimal proportion of either of these elements at all counterbalances the advantages of a pure, limpid, almost tasteless and odourless oil.

History of the Word "Drug."

An interesting article by Prof. Flückiger in the *Archiv der Pharmacie* for last August has recalled our curiosity to the problem involved in the history and etymology of the word "drug."

Dictionaries give us two quotations from English literature at the end of the fourteenth century which are supposed to be the first occurrences of the word in our language. The earliest is in Langland's "Vision of William concerning Piers the Plowman," written in A.D. 1377.

> Lyf leuede that lechecraft lette shulde elde
> And dryuen away deth with dyas and dragges.
> Text B. Pass. 20, lines 172 and 173.*

There are 27 known MSS. of this poem; not all of them contain the passage; and in the last three words there are many various readings. *Dyas* is the form in MS. Ur.; *dias* in C, O, and M; *dyetis* in T; *dayes* in R and P; *diares* in E; and *diagragmator* (!) in B. *Dragges* is the reading in F and T; *drogges* in W., and *drouges* in S.

In modern English the lines read thus: Life believed that leechcraft should let, or hinder, age, and drive away death with dias and dragges. The readings "dias" or "dyas," and "dragges" have most support from the MSS.

The second passage occurs in Chaucer's lively description of a metropolitan physician of the fourteenth century. The passage is less known than it ought to be, so we transcribe it. A party of 29 pilgrims met one night at the Tabard Inn in Southwark. An inn still called the Old Tabard stands on what is said to be the original site. Chaucer proceeds to describe the company in his Prologue. At line 413 he begins:—

> With us ther was a doctour of phisike,
> In all this world ne was ther non him like
> To speke of phisike, and of surgerie:
> For he was grounded in astronomie.
> He kept his patient a ful gret del
> In houres by his magike naturel.
> Wel coude he fortunen the ascendent
> Of his images for his patient.
> He knew the cause of every malad'e,
> Were it of cold, or hote, or moist, or drie,
> And wher engendred, and of what humour.
> He was a veray parfite practisour.
> The cause y knowe, and of his harm the rote,
> Anon he gave to the sike man his bote [remedy].
> Ful redy hadde he his apothecaries
> To send him dragges,† and his lettuaries,
> For eche of hem made other for to winne:
> Hir friendship n'as not newe to beginne.
> Wel knew he the old Esculapius,
> And Dioscorides, and eke Rufus;
> Old Hippocras, Hali, and Gallien;
> Serapion, Rasis, and Avicen;
> Averrois, Damascene, and Constantin;
> Bernard, and Gatisden, and Gilbertin.
> Of his diete mesurable was he,
> For it was of no superfluitee,
> But of gret nourishing, and digestible.
> His studie was but litel on the Bible.
> In sanguin and in perse [sky colour] he clad was alle
> Lined with taffata, and with sendalle.
> And yet he was but esy of dispence:
> He kepte that he wan in the pestilence.
> For gold in phisike is a cordial;
> Therefore he loved gold in special.

* We quote from the edition prepared for the Early English Text Society by the Rev. W. W. Skeat.

† Some texts read "drogges" and "drugges."

Dias, or dyas, in the passage from Piers Plowman, needs a word of explanation. Cotgrave (1611) says it is "a term set before medicinal confections that were devised by the Greeks." Diachylon and diacodium and diapente are almost the only surviving examples, but nearly every drug is represented in the works of the older pharmacists by a confection called "dia," as diamoron, diagrydium, diamargariton, &c. Bailey gives "Dia, a Greek preposition . . . often joined to the names of physical compositions with that of the principal ingredient; as Diascordium, &c." Dias were generally, if not always, electuaries or confections. So late as 1783 the *Electuarium e scordio* of the London Pharmacopœia answered to the Diascordium of the Edinburgh. Piers Plowman's "dyas and dragges," therefore, corresponds exactly to Chaucer's "dragges and his lettuaries." Dictionary makers and editors seem to be sure that "dragges" mean drugs. Pharmacists will not agree with them. Apothecaries do not send drugs to patients, they dispense prepared medicines: like powders, mixtures, and pills, dias and dragges, or dragges and lettuaries. "Drug" always means crude materials for medicines, so far as we have evidence. Popular metaphor would never mix drugs and draughts or drug and dias. Dragges must be some form of medicinal preparation corresponding more or less to electuaries. Skeat, in his Etymological Dictionary, acutely remarks, that "dragges" cannot be the same word as "drogges" (or "druggues"); the form is from the old French 'dragée.'"* Dragées were a kind of sweetmeat, perhaps corresponding to our lozenges; but we cannot speak with certainty.

This, we are convinced, is the solution. The word "dragges," of the fourteenth century, has nothing to do with drugs: it is simply the name of a class of pharmaceutical preparations parallel to electuaries, and known in French as *dragées*.

Note on the Doctour of Phisike's Library.

It is curious to notice that the unholy alliance between physicians and apothecaries was already rife in Chaucer's time. "For each of them made other for to win: their friendship was not newé to begin."

The list of authors the doctor had studied shows unusually wide reading in poet and physician. Few laymen to-day could give such a complete list of medical authors; none but the wealthiest students could have studied so many books. Chaucer has not mentioned them in strictly chronological order, but this, perhaps, is due to the demands of metre.

Esculapius, Asclepias, as is well known, was the inventor of the healing art. His priests were the first physicians, his temples the first hospitals, and the votive inscriptions on the walls, describing the diseases his worshippers had escaped, were the first European medical writings. None of the writings of the Asclepiades are extant.

Hippocras, or Hippocrates, of Cos, lived in the fifth century before Christ.

Dioscorides, Pedanios Dioscorides, of Anazarba, in Cilicia, Asia Minor. His is the earliest work on Materia Medica proper. A.D. 77 or 78.

Rufus—Rufos Ephesios, a renowned Greek physician between A.D. 98 and 117. We still possess his book on the diseases of the bladder and kidneys.

Galien—Claudius Galenus, of Pergamos, Imperial physician at Rome. The great medical authority from the second to the sixteenth centuries. A.D. 131 to 200. He wrote in Greek.

Haly is probably Alî ben Alabbâsz Almagûsî. He wrote in Arabic before A.D. 983, a text-book of medicine still extant in numerous MSS. It was translated into Latin A.D. 1127 by Stephanus Antiochenus, and printed A.D. 1492 at Venice. The author is mentioned as Haly, filius Abbas.

Damascene is almost certainly Johannes or Janus Damascenus, or Mesue of Damascus, filius Mesuæ, of whom a short sketch appeared in this journal last April. He flourished between A.D. 1004 and 1087. In the Middle Ages he was called the evangelist of apothecaries

Avicen is Avicenna, or Ibn Sina. Died in 1037 at the age of 58. One of the greatest of Arabian scientists and philosophers. His chief medical work was the "Canon Medicinæ." The Arabic text was printed at Rome in 1593, and there are at least 28 complete Latin translations.

Averrois, or Ibn Roschid, the greatest of Arabian philosophers; born at Cordova; flourished circa 1190 to 1200. In 1513 Pope Leo X. launched a Bull against the Averroists, and Renan has devoted a work to Averroism. His book, entitled 'Kolliyat,' is a compendium of medicine in seven books. There are Latin translations.

Rasis is Abu Bakr Arâzi, commonly known as Rhases, from Rai, in Persia; died A.D. 922. He wrote an immense number of works; 231 titles are enumerated by one Arabian writer. His book on simples is best known.

Serapion, the younger, flourished between 1100 and 1300 A.D. No MS. of his work in Arabic is known. It was translated into barbarous Latin at the end of the thirteenth century by Simon Januensis, and is entitled "De Simplicibus," &c.

Constantin is Constantinus Afer; born at Carthage; died A.D. 1106. He was one of the luminaries of the School of Salerno, and was the first to translate Arabian writings into European tongues.

Bernard, Gattisden, or John of Gaddesden, and Gilbertin, or Gilbertus Anglicus, are mediæval physicians of whom the writer has no present information.

* Provençal *dragea*, from Italian *treggea*, a sugar-plum (Brachet), derived from Greek *tragēmata*, dried fruits, plural of *tragēma*, something nice to eat; which is again derived from *trogein*, to gnaw, the root in Sanscrit being *tar*, to rub. Rev. R. Morris, in the glossary to the Clarendon Press edition of Chaucer's prologue, gives modern Greek *tragala*, sweetmeats, from *trogalia*, raw fruits at dessert, or sweetmeats. Skeat derives the word "dredge," to sprinkle meat with flour, from the Provençal *dragée*.

Poisoning Cases.

Alcohol.—A cloth-dresser, named Brown, died at Leeds on January 28 from the effects of a pint of rum drunk neat. —On January 29, at Sheffield, John T. Hadfield, aged four years, died suddenly. On January 27 he was left in a room with a bottle containing two wineglassfuls of brandy. He was found unconscious a few minutes later, his breath smelling of brandy, and the bottle empty.

Ammonia.—On January 20 an inquiry was held at Waddesdon, Bucks, into the death of Emma Frances Holland, whose death was alleged to have been caused by the administration of an overdose of caustic ammonia, given in medicine prescribed by Mr. Hamilton Williams, assistant to Messrs. Hooper & Wilcox, surgeons, Aylesbury. Mr. Wanklyn, analyst for Bucks, could not swear positively as to the actual cause of death, although the medicine administered was of a very dangerous nature. This opinion was confirmed by Messrs. Ceeby, Keene, and Wilcox, all in practice as surgeons. The jury found that medicine was administered to the deceased of a dangerous character by Mr. Hamilton Williams, but that there was no evidence to show whether death resulted from the disease or from the effect of the medicine. The inquiry occupied three days.

Carbon Bisulphide.—John Lachlan, shoemaker, Govan, N.B., aged 45, died on January 11. He had been drinking heavily since the new year, and getting out of bed at 5 A.M., he drank a glassful of carbon bisulphide, thinking it was water. Dr. J. W. White was summoned, but the patient never rallied from the shock. He used the bisulphide in his trade.

Hemlock.—On January 15 three Greek sailors were poisoned at Plymouth by eating hemlock. They had walked into the country and found the plant growing in a ditch. They all recovered.

Laburnum.—On January 30 was resumed at Malton a twice-adjourned inquiry into the deaths of Mary Jane Hill (8) and Eliz. Ann Hill (3 years 7 months), who died under suspicious circumstances on January 3 and 4. The elder died on January 3, convulsions being the certified cause of death. Next day the younger child was attacked and died in a few hours. A post-mortem examination was ordered, and the viscera were forwarded to the Leeds public analyst, Mr. Fairley. He examined the stomachs for every known mineral, metallic, and organic poison, but without result. He proved the absence of prussic acid and all the commoner poisonous alkaloids; but he obtained good evidence of the presence of cytisine—the poisonous alkaloid present in all parts of the laburnum tree, *Cytisus laburnum*. A minute portion of the alcoholic extract of the elder child's stomach killed a mouse in a few hours. He had no doubt that the children had been poisoned by eating some portion of the laburnum tree. Dr. Colby and Mr. Lascelles, surgeon, agreed. There was one laburnum tree in the village,

but no one had seen the children near it. The verdict was in accordance with the evidence, and the coroner remarked that this was the first case he knew of in which a proper investigation had been made of a fatal case of poisoning by laburnum.

LAUDANUM.—At Birmingham, on Jan. 27, Arthur Plackett, aged 4 weeks, was killed by a minute dose of laudanum. On the previous evening a bottle containing about five drops of laudanum was handed to the mother, who drank the laudanum, and pouring warm tea into the bottle gave her child some. Next day he died. Verdict, "Death by misadventure."—On January 31, at Westonzoyland, Margaret Ling committed suicide while of unsound mind by drinking a considerable quantity of laudanum.—On January 11 Eliza Crossley, aged 40, died in similar circumstances at Birmingham.—On January 8 Dr. Ravenhill Pearce, of Brighton, died from the effects of nearly an ounce of laudanum. He was suffering from dipsomania, and was under the charge of an attendant, who allowed him to get possession of an ounce bottle of laudanum. The attendant was censured for carelessness.—In the case of Amelia Young, of Caledonian Road, London, who died on January 20, the jury found that death was caused by an overdose of laudanum, but for what purpose it was taken there was no evidence to show.—The same verdict was returned in the case of Mary Hersey, Millman Street, Bedford Row, who died on January 2.—Charges of attempts to commit suicide by taking laudanum were preferred at Clerkenwell against Mary Ann Morpeth, on January 10, and at the Mansion House against Henry Bidwell, on January 18.—At Nottingham, on January 29, a woman named Hannah Froggat confessed that eighteen years ago, at Sheffield, she had poisoned, with laudanum, a child left in her charge.—At Brompton, on January 16, an inquest was held on Lucy Cowlishaw, aged 9 weeks, who died on January 13. Her parents had administered to her early in the morning some warm braudy and water, to which the father added "two drops" of laudanum, measured in a hurry from a large bottle. The parents were censured.

OXALIC ACID.—Alfred James Ward, aged 19, committed suicide at Richmond on January 13 by taking about half an ounce of oxalic acid. In reply to the jury, the coroner said chemists had a right to supply oxalic acid to any person who applied for it, as, unfortunately, it was not scheduled in the Act prohibiting the sale of poisons. Some surprise having been expressed at the observation, the coroner said he hoped a more stringent Act having reference to the sale of poisons would shortly be passed. Oxalic acid, for instance, was a most active poison, and yet any person might purchase it. He himself was almost poisoned by it on one occasion. At the inquest recently held at Wimbledon it was stated that a new Act would probably be passed before long embracing other poisons besides those at present scheduled, and no doubt including oxalic acid. Mr. Marjason, chemist, of Marshgate, Richmond, produced a packet of oxalic acid similar to that which he said was supplied to the deceased a few days previously, and which Dr. Ward now stated contained about four drachms, or a sufficient quantity to poison several people. The jury returned a verdict of "Temporary insanity."

PHOSPHOR PASTE.—On January 17 an inquest was held at the Royal Free Hospital, London, on the body of Isabella Steveus, 18, who had died from poisoning by phosphor paste taken inadvertently on bread on January 9.

STRYCHNINE.—On January 21 Ed. Albert Coles poisoned himself with strychnine in a police cell at Haletown, Staffordshire.—On January 4 Thomas Pearce, Deritend, committed suicide by taking strychnine while intoxicated. Mr. Fletcher, chemist, stated at the inquest that the deceased went to his shop on January 4, and asked for prussic acid, saying that he wanted to poison a dog with it. Witness, in consequence of not having any of that kind of poison, wrapped up a quantity of strychnine, and told deceased that he would administer it to the animal himself. Deceased then asked for some pills, and whilst witness was getting them for him he took the packet of poison, which had inadvertently been left on the counter. Witness did not notice him doing so. A verdict that the deceased committed suicide whilst in a state of temporary insanity was returned.

VERMIN-KILLER.—At Exeter, on January 17, a girl of 18, whose mind had been weakened by epileptic fits, committed suicide by taking rat powder on bread.

AT Dairycoates, near Hull, a long inquiry has been made into the cause of the deaths of Susanna and Emma Stephenson, aged 5 and 3 years respectively. On January 2 both children were attacked by vomiting and convulsions. On January 3 Mr. Cartwright was called in; he is a chemist in the Hessle Road, acting as assistant to Dr. Jackson, of the Anlaby Road, Boulevard. He prescribed, but next day, as the symptoms grew worse, he called in his principal. The children died a few hours later. On February 3 the inquiry ended. The coroner, in summing up, said he considered it highly improper that an unqualified man should act for a medical man in the way that Cartwright appeared to have done. It was anything but a creditable proceeding. The jury returned the following verdict:—"We consider the two children's deaths were caused by inflammation, resulting from some irritant poison, but we have been unable, after analysis, to discover what was the nature of the poison. We are further of opinion that great difficulty has been thrown in the way of the analysis by the treatment which Mr. Cartwright has adopted, and his want of care in not preserving the vomit. The jury express an adverse opinion as to the system adopted by Mr. Cartwright and Dr. Jackson." The coroner said he agreed with the jury. If the mode of proceedure was not put an end to, Mr. Cartwright might find himself placed in a serious position same day.

Obituary.

BALL.—On December 28, 1881, Mr. Joseph Ball, pharmaceutical chemist, Oxton, near Birkenhead. Aged 67 years. Mr. Ball was one of the Founders of the Pharmaceutical Society, and had been in business in Liverpool and Birkenhead for nearly 50 years.

BILNEY.—On December 13, 1881, at 200 Essex Road, Islington, Mr. Joseph Thomas Bilney, pharmaceutical chemist. Aged 32 years.

BYGRAVE.—On January 13, 1882, Mr. William Bygrave, chemist and druggist, Lower George Street, Chelsea. Aged 59 years.

CAMPBELL.—On January 6, 1882, Mr. Donald Campbell, chemist and druggist, Albany Road, Camberwell, S.E. Aged 58 years.

CHRISTISON, SIR ROBERT, BART., M.D., D.C.L., LL.D.—This eminent physician and leading authority on Materia Medica died at Edinburgh on January 27, 1882, at the age of 85. He was son of a professor in Edinburgh University and received a good general and afterwards a thorough medical education, which was directed into its special groove, when he afterwards studied in Paris under Orfila and Robiquet. Returning to Edinburgh Christison was appointed Professor of Medical Jurisprudence in the University at the age of 25. While he held that position he published his "Treatise on Poisons" which soon became a standard work. He held that chair for 10 years and left his class ten times as large as he found it. In 1832 he was appointed Professor of Materia Medica and remained such until 1877 when he resigned the chair. He published his Dispensatory in 1842. In 1838 and again in 1846 he was President of the Edinburgh College of Physicians; from 1857 to 1873 he was one of the Crown representatives on the General Medical Council; in 1868 he was elected President of the Edinburgh Royal Society, in succession to Sir David Brewster; in 1871 a baronetcy was conferred upon him. He was among the first of the honorary members of the Pharmaceutical Society, and was always interested in its progress. His funeral was attended by representatives of the University and of nearly all the scientific societies in Edinburgh, and was witnessed by a large number of people. His eldest son, who succeeds to his title, is a Surgeon-General in the Bengal Army.

CORLETT.—On January 17, 1882, found dead after the disastrous fire at Messrs. Morson & Son's, Mr. Edwin Corlett, pharmaceutical chemist. Aged 26 years.

GILES.—On January 2, 1882, Mr. Elias Giles, late of Ottery St. Mary, chemist and druggist. Aged 54 years.

HANBURY.—On February 12, 1882, at his residence, Hollywood, Clapham Common, Daniel Bell Hanbury, in his 89th year.

HAYS.—On January 3, 1882, at his residence, Milford Villa, Uxbridge Road, Ealing, W., Mr. Philip Trueman Hays, chemist and druggist (late of Churchfield Road, Acton, W.), formerly for many years with Messrs. Morson & Son, Southampton Row. Aged 61 years.

HUNTER. — On January 17, 1882, Mr. James Hunter, chemist and druggist, Crown Street, Aberdeen. Aged 43 years.

KEMPSTER.—On January 17, 1882, through the disastrous fire at Messrs. Morson & Son's, Mr. Frederick Augustus Kempster, chemist and druggist (manager to Messrs. Morson & Son), the youngest son of Mr. John Kempster, of No. 37 Lower Kennington Lane, Lambeth, and No. 72 Jeffrey's Road, Clapham Rise. Aged 28 years.

KING.—On December 23, 1881, Mr. William King, pharmaceutical chemist, Soham, Cambs. Aged 80 years. Mr. King had been a member of the Pharmaceutical Society since 1853.

MYGER.—On January 19, 1882, Mr. William John Mayger, pharmaceutical chemist, Regent Street, Northampton. Aged 24 years.

ROBINSON.—On January 6 at Whitby, died Mr. Francis Kildal Robinson, aged 72. Mr. Robinson was a well-known antiquary and topographer. He was born in London in 1809, but for about 50 years he was in business in Whitby as a chemist and druggist. His first publication dates back to 1829, and in 1855 he published his excellent "Glossary of Yorkshire Words and Phrases," which he subsequently re-published in a much-enlarged form for the English Dialect Society, and it is justly esteemed a standard work on the subject. His acquaintance with the Yorkshire dialect was so extensive that when Prince Lucien Bonaparte was investigating the English dialects many years ago he applied to Mr. Robinson for information on the dialect of North Yorkshire. Mr. Robinson's "History of Whitby and its Abbey," a work of much learning and research, was issued from the local press in 1860. Mr. Robinson was noted for his skill in the art of modelling, especially as applied to cathedrals and abbeys, he being an accomplished and ingenious archæologist, and his clever medel of Whitby Abbey restored, which was shown in the great exhibition of 1851 was a work of much skill and taste. Mr. Robinson has been in declining health for some time. He was one of the secretaries of the Whitby Literary and Philosophical Society.

WILLIAMSON.—On January 23, 1882, Mr. Robert Hammond Williamson, chemist and druggist, Princes Street, Scarborough. Aged 49 years.

"PHŒNIX" BRAND THIBET MUSK.

We have received from Messrs. Symes & Co., of Simla, India, a sample of their "Phœnix" brand of genuine Thibet musk which they are introducing into this country through Messrs. Lynch & Co. Their system is to put it up in ¼-oz. sealed bottles bearing their name and trade-mark. They supply grain musk only in this form, and this, they say, is not only pure musk to the best of their knowledge and belief, but they guarantee it to be absolutely pure and genuine.

The sample we have received is of exceptionally fine quality. Messrs. Symes & Co. claim that it is at present offered at only about half its value. Without venturing to make comparisons, we may say that we think purchasers of this brand will certainly get value for their money, and will do well to avoid the risk of buying pod musk.

CONROY'S MALT COFFEE.

This preparation has been brought before the trade by Messrs. Evans, Sons & Co., of Liverpool, and the process of its manufacture has been devised by their well-known chemist, Mr. M. Conroy, F.C.S. It contains no ingredients except malt and coffee, and the former is certified by Mr. Edward Davies to contain malt diastase in an active form, that is, we suppose, the malt has not been roasted with the coffee. The combination appears to be a happy one, as coffee is generally taken with starchy foods, the digestion of which, it may be expected, in this form, to aid. We can testify to the excellent flavour of coffee made from this compound, while the style in which it is put up for sale leaves nothing to be desired.

CHEKEN.

On September 6, 1878, A. Borchers, of Valparaiso, Chili, applied for a patent for "improvements in, and relating to, the use and preparation of the *Eugenia chekan*, a plant indigenous to the soil of Chili, not hitherto known or used as a medicine in Great Britain." Six months afterwards the letters patent were duly issued. Meanwhile Mr. Holmes communicated to the Pharmaceutical Society (February 5, 1879) a concise account of the plant and its properties. It had long been known in Chili as an aromatic astringent. Dr. Dessauer, of Valparaiso, has used it with great success in bronchitis, catarrh of the bladder, and other affections of the mucous membranes. In earlier times it has been used as a sovereign remedy for inflammation and other eye diseases. Messrs. Wyleys & Co., of Coventry, have made this drug a specialty, and prepare an essential oil and a fluid extract (1 in 1) with their accustomed elegance. The oil has a disgusting odour unless largely diluted; the fluid extract strongly recalls licorice in both taste and smell.

A NEW ANTISEPTIC.

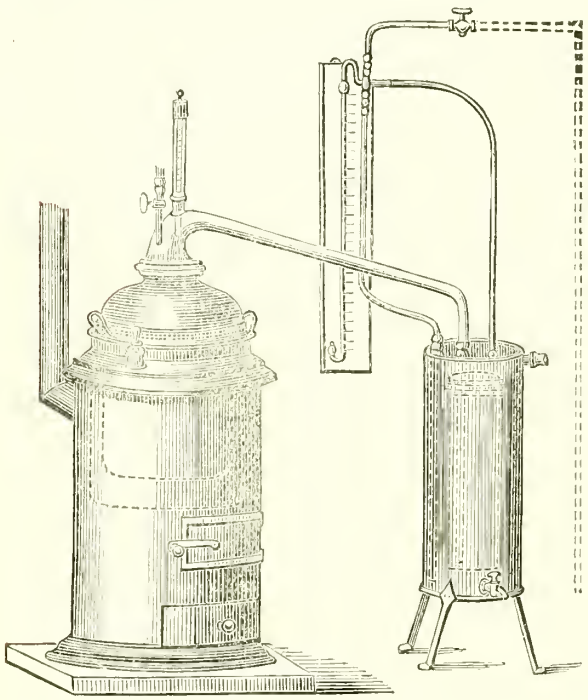
Professor Barff's new compound, which has been rather loudly trumpeted, consists of glycerine with boracic acid, in the proportion of 92 parts of the former to 62 of the latter. Prolonged heat, a little short of the boiling point of glycerine, is necessary to dissolve the boracic acid; on cooling, the substance is a tough deliquescent mass, soluble in water and in alcohol. It is a new chemical compound, named by the patentee boroglyceride, and is a powerful antiseptic. For general purposes a solution of 1 part to 40 parts of water is recommended.

OLEUM RICINI INSIPIDUM.

Pharmacists in no way justify their existence in the community better than by improvements in the preparation of useful medicines, rendering them less nauseous or more convenient for administration. By producing a tasteless and odourless castor oil Messrs. Allen & Hanburys may be congratulated on having achieved a really notable triumph of mind over matter. Their product certainly has no trace of odour, and it is as free from taste as pure olive or almond oil. It is rather difficult to exactly appreciate this fact, and it is probable that the present generation will hardly fully understand what has been done for them. Castor oil has an evil reputation clinging to it, which it is impossible for any of us to forget as we approach it. It is only necessary, however, now to dismiss all prejudice from the mind, and a dose of castor oil need no longer inspire the dread which clusters round its name in every household.

A NEW VACUUM APPARATUS FOR PHARMACEUTICAL PURPOSES.

THE employment of vacuum apparatus on an industrial scale is no novelty, but as yet they have not been much adopted in pharmaceutical laboratories, which has been probably due to the complication of the arrangement and the purchase costs thereby involved. It may be, therefore, of some interest to describe a new form of such apparatus, made by the well-known firm of F. A. Wolff & Sons, of Heilbronn, the particulars of which we obtain from the *Pharm. Centralhalle.*



The apparatus is shown in the drawing, and, as will be seen, consists of a stove, above which is a copper water-bath, and over this again is a vessel of copper, lined with tin, for holding the substance to be evaporated. This is fitted with a semi-globular glass lid, which, by means of a caoutchouc ring, 5 mm. thick, renders the evaporating vessel perfectly air-tight. The upper part of the cover ends in a tinned-copper headpiece, in the neck of which is fitted a thermometer and a pipe supplied with a cock, which latter serves to regulate the distillation by admitting air, or for charging the evaporating vessel without removing the upper part of the apparatus. The condensing cylinder, indicated in the figure by dots, is likewise of tinned copper. The suction is effected by an air-pump, constructed on the system that a falling stream of water is the exhaustive force. The stream must either be under a pressure of 4 to 5 atmospheres or fall from a height of about 10 metres. A vacuum indicator shows the tenuity in the evaporating vessel.

With the help of this vacuum apparatus, the pharmacist will be placed in a position to return to the preparation of a number of substances from which field, owing to the advantage of better plant on the part of large industrial works, he has been expelled. He will not only be able to prepare extracts, such as extracts of malt, &c., but also, by means of the apparatus, he will be able to rectify the most subtle volatile substances, dry precipitates, salts, and even delicate herbs, and in many other ways make the apparatus useful, profitable, and instructive.

MAW'S "SAUCE PIQUANTE."

MESSRS. S. MAW, SON & THOMPSON have set themselves to produce a shilling bottle of sauce, which they wish to make expressly a chemists' article. We do not know what means they propose to adopt to keep it to the trade, but we understand it is their wish to do so if the trade take it up with sufficient spirit. The sauce compares favourably with any now in the market, and is likely, indeed, to secure for itself quite a special reputation. It is put up in attractive style and supplied in straw envelopes.

Trade Notes.

JAMES BYRON WALKLEY, of Market Place, Bollington, has succeeded his father in the business, from which the latter is retiring.

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THE new edition of Messrs. Lynch & Co.'s priced catalogue of druggists' sundries, surgical instruments, shop-fittings, and proprietary articles has been just published.

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MESSRS. BRATBY & HINCHLIFFE, of Manchester, have lately fitted up aërated-water factories for Mr. J. C. Thresh, chemist, Buxton, and for Mr. J. Tunbridge, chemist, Reading.

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WE hear that the "Lewis" firm, which has made such havoc with the patent medicine and druggists' sundries trade in Liverpool and Manchester, are about to open an establishment in Birmingham.

***

MONTSERRAT LIME JUICE.—The *Hilda* arrived at Liverpool from Montserrat towards the end of January with 47 hogsheads and 417 puncheons of new season's lime juice (equal to 40,000 gallons), consigned to Messrs. Evans, Sons & Co.

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THE Syrup of Hydriodic Acid introduced into this country by Messrs. Allen & Hanburys is prepared in the laboratories of Messrs. W. H. Schieffelin & Co., of New York, and has acquired the highest reputation among the medical profession of the United States.

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MESSRS. EVANS, SONS & CO., of Liverpool, have issued a new price current of druggists' sundries, patent medicines, proprietary articles, &c., including Savar's specialties. They have considerably added to their stock in this section, and quote a number of articles at lower prices.

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MR. B. ROBINSON, of Pendleton, Manchester, has relinquished his retail business, and for the purposes of his wholesale business has erected a large brewery in Church Street, Pendleton, for the production of orange and other British wines, and for carrying on his general business in the manufacture of concentrated waters, corn-solvents, &c.

***

WE have received a new catalogue of soda-water apparatus from Mr. H. Favarger, of Turnmill Street, who is the sole English agent for the Mondollot system of soda-water machinery. In this the Mondollot system, which is unique and to some extent automatic, is described and illustrated, and Mr. Favarger announces his willingness to allow a month's trial of his machinery.

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THE BARK SPECULATION.—The principal of the Milan Quinine Works writes to the *Pharm. Zeitung* to contradict a statement which had appeared in that journal to the effect

at at firm and a few German houses had formed a ndi te to buy up a large part of the London stock of bark, th e object of forcing up the price. He says:—"The ese advance is the exclusive work of a London import use and we have in no way shared in it. On the contrary, e consider it ruinous to the trade if the article should fall to the hands of speculators, and we believe it is the in- rest f all manufacturers to prevent, as far as possible, all ch bitrary advance or depression in the price occasioned sp ulation."

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Chsericulture is a new term used to describe the com- nec ndustries of tea and silk. It includes the planting, ltiv tion, and manipulation of tea and the mulberry, and e ring of the silkworm. "Cha" means the dry pre- rec eaves of the tea-plant; "seri" comes from sericum, lk; nd the remaining word is obvious. Tea and silk are dva ageously cultivated together, hence the compound rm

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Flwers of Camphor are now put on the market by less. Howards & Sons, and supplied in cases containing 0 lb. each. This is camphor sublimed into the form of a owd instead of into the usual bells, or the recently-intro- uce tablets. There are many purposes for which amp r is used by druggists, for which it will, no doubt, e fo nd more convenient in this form as powder, and it is upp d at 1*d.* per lb. cheaper than in the bells.

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Messrs. Bourne & Taylor have introduced a shilling edi g-bottle, the novelty of which is that the bottle-cap is a or piece with the tube, the whole being made of pure lack rubber. The connection between the teat and the ube of glass, so that the bottle is entirely constructed of lass nd black rubber. The same firm send us a sample of ne porous Olibanum plaster, which they offer at a low rice as a substitute for the "Poor-man's" plasters of old- stat shed reputation.

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Savar's Camphor.—Messrs. Evans, Sons & Co. have hit he ark with Savar's penny boxes of camphor. The boxes re t well-known metal boxes with rounded corners and idi -lids, but they are new in design, inasmuch as they re rforated back and front, and on the lid the word Cam hor" is impressed. These are filled with camphor in granulated form, and give out the aroma through the erfe tions. To sell these so that they can be retailed for pe ny is rather surprising. Perhaps this pennyworth will ot r lise as much profit as a pennyworth sold in the ordi- ary way, but it should be borne in mind that a dozen eop will buy it in this form to one who would have it ecau he really wanted it. Chemists must respect the enn trade, for it is that, particularly, which they may look o re in. Co-operative stores do not yet offer pennyworths or t ee farthings.

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Messrs. Barnett & Foster have issued a new descrip- ive nd illustrated catalogue of their soda-water machinery nd cessories for 1882. It is very much to be hoped that ner tic chemists and druggists will keep this "auxiliary rade" fast in their own hands. All over the country the est erated waters are manufactured by chemists and rug sts. This is a notorious fact. There are, too, many who, fter a little diligent attention to the trade, have found r ound better to such attention than even pharmacy sel That the taste for aërated waters is expanding in his nd other countries is unquestionable, and hitherto ons ption has fully kept pace with supply. There is no eas in the world why chemists should let this trade slip nto he hands of grocers and publicans, but to hold it they ust e prepared for some hard work, and they must be rilli to adopt modern prices. The aërated-water trade, nlik physic, is one which repays handsomely faith in nod ate prices. Anyone thinking of meddling with the rad will do well to become as fully acquainted as possible ith its details first, and they will find that Messrs. Barnett nd oster's very lucidly-written catalogue will give them a rea deal of information.

[The following list has been compiled expressly for The Chemist and Druggist by G. F. Redfern, Patent Agent, 4 South Street, Finsbury, London, and at Paris and Brussels.]

Applications for Letters Patent:—

Abstracting Ammonia. — No. 440. — G. Neilson, of Summerlee, Lanarkshire, North Britain. Improved modes and means and apparatus for abstracting ammonia from the gaseous products of combustion in smelting and other furnaces. Dated January 28, 1882.

Acetic Acid.—No. 354.—H. J. Haddan.—A communication from Fröhlich & Co., of Zeitz, Germany. Improvements in the manufacture of acetic acid. Dated January 24, 1882.

Admixture of Liquids.—No. 187.—E. J. Whitlock and S. Smale, both of Broad Street, Lambeth, London. The admixture of liquids of different densities or specific gravities. Dated January 13, 1882.

Aniline, &c.—No. 384.—W. R. Lake.—A communication from E. D. Kendall, of Brooklyn, New York, United States. An improved process and apparatus for the production of aniline and toluidine, and of colouring materials therefrom. Dated January 25, 1882.

Beverage — No. 28. — J. W. Wood, of Liverpool. An improved beverage or artificial coffee. Dated January 3, 1882.

Bleaching and Dyeing.—No. 288.—J. Auchinvole, of Glasgow, Improvements in and connected with the bleaching and dyeing of cotton, flax, jute, wool, silk, and other fibres. Dated January 20, 1882.

Bottles.—No. 103.—A. Jacobs, of Camberwell New Road, and J. Jacobs, of Newington Causeway, both in London. Improvements in bottles for containing aërated liquors or other fluids. Dated January 7, 1882.

Bottles.—No. 125.—H. H. Fanshawe, of East Dulwich, and A. J. T. Wild, of Nunhead, London. Improvements in bottles or like receptacles, and the means for closing and opening the same. Dated January 10, 1882.

Colouring Matters.—No. 39.—J. A. Dixon.—A communication from Dr. C. Kœnig, of Höchst-am-Main, Germany. Improvements in the manufacture of colouring-matters suitable for dyeing and printing. Dated January 4, 1882.

Colouring Matters.—No. 451.—J. A. Dixon.—A communication from C. Rumpff, of Elberfeld, Germany. Improvements in the manufacture of colouring-matters suitable for dyeing and printing. Dated January 30, 1882.

Cork-branding Machines.—No. 151.—C. J. Leclerc, of Paris. Improvements in cork-branding machines. Dated January 11, 1882.

Cyanogen Compounds, &c.—No. 433.—L. Mond, of Northwich, Cheshire. Improvements in the manufacture of certain cyanogen compounds and ammonia. Dated January 28, 1882.

Disinfectants.—No. 381.—E. G. Brewer.—A communication from E. E. Egasse, of Paris. A new or improved manufacture of disinfectants, and the application thereof to various useful purposes. Dated January 25, 1882.

Distilling Glycerine.—No. 203.—G. Payne, of Millwall, London. An improved apparatus for the distillation of glycerine. Dated January 14, 1882.

Dyeing, &c.—No. 47[illegible].—W. W. Richardson, of East Street, Leeds. Improvements in dyeing and printing, and in the preparation of colours and stains for these and other purposes. Dated January 31, 1882.

Effecting Electro-hydro-therapeutic Treatment —No. 278.—W. A. Barlow.—A communication from Messieurs L. Eucansse et Canesie, of Paris. Improvements in means for effecting electro-hydro-therapeutic treatment of patients affected by disease. Dated January 19, 1882.

Food for Cattle.—No. 375.—C. D. Abel.—A communication from O. Zacker, of Berlin. An improved manufacture of cattle-food from brewers' grains. Dated January 25, 1882.

Galvanic Batteries.—No. 144.—H. J. Haddan.—A communication from Dr. E. Boettcher, of Leipzig, Saxony. Improvements in secondary galvanic batteries. Dated January 11, 1882.

Galvanic Batteries.—No. 297.—J. Higgin, and A. J. Higgin, both of Manchester. Improvements in galvanic batteries and in the treatment of solutions therefrom for the recovery of useful products. Dated January 29, 1882.

Greasy Matters.—No. 494.—G. L. Scott, of Manchester, and H. Kenyon, of Altrincham, Cheshire. Improvements in and in the manufacture of greasy matters for use as lubricants and for other uses. Dated February 1, 1882.

Liquor-frames, &c.—No. 483.—W. Edge, of Birmingham. Improvements in liquor frames or stands, scent-bottle frames or stands, cruet frames or stands, and other like frames or stands. Dated January 31, 1882.

Manure.—No. 132.—E. Edwards.—A communication from Messrs. Gaillet & Huet, of Lille, France. Improvements in process of and apparatus for the manufacture of manure from the waste from distilleries. Dated January 10, 1882.

Manure.—No. 473.—J. Brock, of Widnes, Lancashire. Improvements in utilising alkali-waste and in manufacturing manure therefrom. Dated January 31, 1882.

Mitigating the Blood.—No. 480.—L. A. Groth.—A communication from C. Vorberg, of Cologne, Germany. A new or improved apparatus for mitigating the blood, which is used at the same time as braces. Dated January 31, 1882.

Neuralgia Compound.—No. 44.—H. F. Mills, Notting Hill, London. A new or improved compound or mixture for the cure of neuralgia or other analagous complaints. Dated January 4, 1882.

Protecting Bottles, &c.—No. 226.—J. M. Thorpe and J. A. Belloli, of San José California, United States. Protecting bottles, jars, and similar vessels from breakage, either in packing or handling. Dated January 17, 1882.

Recovering Flocculent Mater.—No. 24.—W. R. Lake.—A communication from M. C. Lefferts, of New York, United States. An improved process for removing flocculent matter from spent acids used in the treatment of soluble fibre. Dated January 3, 1882.

Salt-cake, &c.—No. 509.—G. S. Hazlehurst, of Runcorn, Cheshire. Improvements in the manufacture of salt-cake and muriatic acid, and furnaces therefor, such furnaces being also applicable for the manufacture of carbonated alkalies, the generation of coal-gas, the burning of bones, the separation of brine from salt, and various other useful purposes. Dated February 2, 1882.

Separating Oil or Tar.—No. 410.—G. Chapman, of Glasgow. Improvements in separating oil or tar from blast-furnace gases and in apparatus therefor. Dated January 27, 1882.

Soap.—No. 25.—G. Payne, of Millwall, London. An improved process or method of manufacturing soap. Dated January 3, 1882.

Soda.—No. 109.—W. Weldon.—A communication from Dr. M. Schaffner and W. Helbig, both of Aussig, Austria. Improvements in the manufacture of soda, and in the regeneration of various agents used therein, partly applicable also to the manufacture of potash. Dated January 9, 1882.

Stopping Bottles.—No. 21.—W. R. Lake.—A communication from O. R. Chaplin, of Boston, Massachusetts, United States. Improvements in machines for preparing wire for securing corks or stoppers in bottles or other vessels. Dated January 3, 1882.

Stopping Bottles.—No. 212.—K. F. C. Petersen, of Hamburg, Germany. Improvements in machines for corking bottles. Dated January 16, 1882.

Sulphuric Acid.—No. 367.—W. Windus, of Bristol. Improvements in the manufacture of sulphuric acid, and in the utilisation of products arising therein. Dated January 24, 1882.

Treating Mineral Phosphates.—No. 156.—D. Perry, of Glasgow. Improvements in the treatment of certain mineral phosphates to obtain useful products therefrom. Dated January 11, 1882.

Treating Phosphatic Substances, &c.—No. 311.—H. Y. D. Scott, of Sydenham, Kent. Improvements in the treatment of phosphatic and nitrogenous substances, and in the manufacture of manures therefrom. Dated January 21, 1882.

Treating Solutions.—No. 202.—A. McDougall, of Penrith, Cumberland. Improvements in treating certain solutions containing compounds of ammonia, in order to obtain useful products therefrom. Dated January 14, 1882.

Withdrawing Aerated Liquors.—No. 508.—F. E. Wood, of Workington, Cumberland. An improved appliance to be used in withdrawing aerated liquors from bottles. Dated February 2, 1882.

Specifications published during the month:—

Postage 1*d.* each extra.

2037. R. Hall. Substitute for coffee. (Not proceeded with.) 2*d.*
2359. J. F. N. Macay. Apparatus for filtering, &c. 6*d.*
2361. T. F. Scott. Disinfectant and antiseptic compound, &c. 2*d.*
2377. E. J. T. Digby. Manufacture of "finings" for clarifying and preserving ales, &c. 2*d.*
2400. C. Farrow and R. B. Jackson. Apparatus for holding bottles containing effervescent and still liquids. (Not proceeded with.) 2*d.*
2404. R. Seager. Portable effervescent fountain for the production and supply of aërated water or liquors. 6*d.*
2423. W. L. Wise. Treatment of organic substances for the production of ammonia, &c. 6*d.*
2462. C. Thomas. Treatment of soap leys, glycerine, &c. 6*d.*
2480. W. R. Lake. Turbines. 8*d.*
2488. C. D. Abel. Manufacture of explosive compounds. 4*d.*
2507. J. Mayer. Trusses. 6*d.*
2510. R. Bardsley. Machinery for filling bottles. 6*d.*
2512. H. J. Haddan. Bottle wrappers. 6*d.*
2513. H. J. Haddan. Bottle wrappers. 6*d.*
2528. J. Dixon. Manufacture of gas. 1*s.*
2575. W. E. Gedge. Manufacture of baryta. 4*d.*
2580. J. Webster. Producing alumina, &c. 4*d.*
2581. C. M. Sombart. Preparation of stains and materials for polishing. 2*d.*
2589. F. Lux. Desulphuration of liquids and gases. 4*d.*
2608. F. Wirth. Machines for capsuling bottles, &c. (Not proceeded with.) 2*d.*
2649. C. Scheibler. Manufacture of gypsum and magnesia. (Not proceeded with.) 2*d.*
2659. F. W. Woodman. Bottle stopper. (Not proceeded with.) 2*d.*
2682. W. Green. Manufacture or treatment of soap, &c. 4*d.*
2689. A. Sansone. Application of colouring matters to fabrics. (Not proceeded with.) 2*d.*
2691. H. J. Haddan. Filter presses. (Not proceeded with.) 2*d.*
2695. W. Hagelsieb. Composition for destruction of rats, mice, &c. (Not proceeded with.) 2*d.*
2716. P. M. Justice. Apparatus for filtering water. 1*s.* 6*d.*
2724. J. Jeffs. Glass bottles, decanters, &c. (Not proceeded with.) 2*d.*
2741. A. Gough. Treating vegetable substances for colouring matter for stout and porter. 4*d.*
2745. E. Davies and E. Massey. Treatment of fibrous animal matter for manufacture of manure. 6*d.*
2747. E. Bischof. Purification of water. 4*d.*
2793. W. Sharp. Machinery for the manufacture of lozenges, &c. 6*d.*
2816. G. Payne. Treating spent leys of soap works. 4*d.*
2837. W. E. Gaine. Dyeing. 4*d.*
2838. C. F. Claus. Purification of coal gas. 4*d.*
2849. J. G. Hawkins. Purifying coal-gas. 4*d.*
2850. S. D. Cox. Treating fish for use as manure. 6*d.*
2863. A. M. Clark. Manufacture of dye-products from indigo and sulpho-conjugated derivatives of aniline. 4*d.*
2865. C. F. Claus. Purification of coal gas, &c. 4*d.*
2957. G. F. Redfern. Caustic-holders or cases. 6*d.*

ABSTRACTS OF SPECIFICATIONS.

FOR permission to print the following we are indebted to the courtesy of the *Engineer*:—

2730 Castor and Cod-liver Oil SWEETMEATS, *H. Bories and P. V. Tostain.—June* 22, 1881. 2*d.*

This consists in mixing cod-liver, castor, or other oil with sugar or chocolate, so as to form sweetmeats.

1611. Compound of Cocoa, &c., *W. Barry, London.—April* 13, 1881.—(*Provisional protection not allowed.*) 2*d.*

The compound consists of pure cocoa, Peruvian bark, liquid homœopathic preparation of phosphorus, and sulphate of iron.

2047. Depilatory FOR HUMAN BEINGS AND OF ANIMALS, *J. Blumm.—May* 10, 1881.—(*Not proceeded with.*) 2*d.*

The compound consists of monosulphide of barium, flour, starch, and orris-root powder, or alkanah-root powder, to which water is added to form a paste, which is applied to the part where the hair is required to be removed.

2008. Preparation of Drink from Extract of Liquorice, *B. Hunt.—May* 9, 1881.—(*A communication from V. F. Marchier.*) 4*d.*

Liquorice-root is crushed and placed in vats of water and macerated for about 12 hours, when the water is withdrawn and boiled, then filtered and treated with dilute sulphuric acid. The precipitate from this operation is washed in boiling-water to remove excess of acid and other foreign matters, and is afterwards used to produce beverages, by mixing with carbonate of soda and adding suitable flavourings.

2072 Treatment of the Date Fruit FOR A DRINK, *T. F. Henley.—May* 12, 1881. 6*d.*

Whole dates are placed on removable trays within a close oven containing tubes partly filled with water, and which are continued outside the oven into a flue or chamber, where they are heated by a furnace. The dates so treated are browned by a dry heat, and retain all the nutritive properties, and they are afterwards employed to prepare food beverages.

2112. Flannel, Antiseptic and Antirheumatic, &c., *W. Schofield.—May* 14, 1881. 2*d.*

The object is to prepare flannel so as to impart to it anti rheumatic and disinfecting qualities, and it consists in placing the flannel into a solution consisting of about ½ lb. soft soap and 1 oz. common gum boiled in about 2 quarts of water, and, whilst boiling, about ½ pint of salad oil and about 1 quart of "sanitas" is added.

115 **Drink**, *W. P. Thompson, London.—March* 17, 1881.—*(A communication from C. Desnos, Paris.)—(Provisional protection not allowed.)* 2*d.*

The principal ingredients are beer, ale, porter, or stout, and sarsaparilla.

212 **Furniture Polish**, *C. D. Abel, London.—May* 16, 1881.—*(A communication from E. Schultz, Berlin.)—(Not proceeded with.)* 2*d.*

This consists in a mixture of fatty oils with gum mastic and other gums or resins dissolved in alcohol and with nitrobenzole.

217 Extraction of **Glycerine** from Compounds or Substances containing the Same, &c., *W. R. Lake, London.—May* 18, 1881. *(A communication from P. J. B. Depouly and D. Droux, both of Paris.)* 4*d.*

This consists in the extraction of glycerine from manufacturers' refuse and other mixtures (especially the lyes obtained from soapworks or from lowpines, or the refuse from alcoholic fermentation) by the combination of glycerine with fatty acids, properly so called, and with natural neutral fatty bodies, which combination permits the elimination by simple washing with water of the salts and other impurities from the ordinary glycine of commerce, and which combination can be obtained either by heating in the open air, or in a retort without pressure, or in a suitable vessel under pressure.

221 Production of **Hydrogen** Gas and Manufacture of Ammonia, *S. Samuel, Liverpool.—May* 20, 1881. 2*d.*

This consists in passing steam through incandescent coke or other combustible, or through incandescent iron borings or scrap iron contained with a cupola, such incandescence being maintained by producing a rarefaction of the air within such cupola by means of a steam jet, and so inducing steam to pass through the incandescent material with great velocity, and thereby hydrogen gas is produced in large quantities.

203 Treating **Iridium**, &c., *W. P. Thompson.—May* 10, 1881.—*(A communication from J. Holland.)* 4*d.*

The object is to fuse, mould, and prepare iridium in order that it may be used in the mechanical arts wherever a hard non-wearing, non-corrosive substance is needed; and it consists in fusing and moulding iridium by raising the metal to a high temperature, then adding phosphorus, and after the metal is cast releasing the phosphorus by subjecting the metal to heat in a bath of lime, chalk, or other absorbent. To adapt it for pen-points and other small objects, the phosphuret of iridium is poured out on to metal plates, heated and formed with fine ribs, so as to form a network of grooves in the metal, which can then be broken into pieces of the required shape and size.

190 Production of **Magnesia**, *H. Weckind.—May* 3, 1881.—*A communication from H. Hauenschild.—(Not proceeded with.)* 2*d.*

Burnt or powdered carbonate of magnesia or lime containing magnesia slaked to hydrates or dolomite or magnesia limestone is treated with dilute sulphuric acid or soluble sulphates of alkalies, alkaline earths, or metals in limited quantities, and the precipitates produced are separated according to their specific gravity. The sulphate of calcium thus formed is rendered more soluble by the addition of common salt, sal ammoniac, or muriatic acid or nitric acid, and is thereby more readily separated from the precipitated magnesia.

189 Separating the Lime and **Magnesia** in Dolomite, *S. Cliff.—May* 2, 1881.—*(Void.)* 2*d.*

This consists in the separation of the lime and magnesia contained in dolomite, by employing the differences in the specific gravities of the different salts or combinations of lime (calcium) and magnesium respectively. The dolomite is mixed with sulphuric acid or any natural sulphate or sulphide, so as to form sulphate or sulphide of calcium. The magnesia being heavier than the sulphate or sulphide, falls down first, and the sulphate or sulphide afterwards. The latter is then removed by suitable means.

205 Preparation of **Petroleum**, &c., *S. Pitt.—May* 11, 1881.—*(A communication from P. Dittmar.)—(Not proceeded with.)* 2*d.*

This consists in mixing from 3 to 5 per cent. of common soap, either alone or mixed with ozokerit, with crude petroleum heated to 150° C., whereby on cooling the petroleum will solidify, when it can be more easily transported. The distillation of such mass is effected directly by heating to a high temperature.

191 White **Zinc Pigments**, *W. R. Lake.—May* 3, 1881.—*A communication from J. Crawley.)—(Void.)* 2*d.*

This relates to the manufacture of white zinc pigment for use as paint and for other purposes, and consists essentially in an admixture of precipitated sulphide of zinc, or precipitated sulphide of zinc and precipitated sulphate of barium or calcium, or both, with oxide of magnesium prior to ignition or calcination of the mass.

206 Tracing Paper, Cloth, &c., *W. T. Harvey.—May* 9, 1881. 4*d.*

This consists essentially in thoroughly permeating the paper or other material with boiled linseed oil or other drying oil, benzine being used to remove all traces of unchanged or non-drying oil from the paper.

1515 **Oil Seeds**, Wrapper or Envelope for Expressing, *C. H. Dibb, Hull.—April* 6, 1881.—*(Provisional protection not allowed.)* 2*d.*

The wrappers are made of compressed tanned walrus-hide.

1986 **Toilet Vinegar**, *H. J. Allison.—May* 7, 1881.—*(A communication from E. Redarès and L. Bouviez.)—(Not proceeded with.)* 2*d.*

Vinegar is poured on to a number of different roots, leaves, flowers, &c., previously crushed, the whole being thoroughly mixed and exposed to the heat of the sun for 10 or 15 days.

2580 Producing **Alumina**, &c., *J. Webster, Solihull, Warwick.—June* 14, 1881. 4*d.*

This consists in extracting the chief portion of the sulphur and ferric sulphate, and recovering the hydrochloric acid from the compound of a mixture of carbonaceous matter with alum, while in a heated state by means of a jet or jets of steam and atmospheric air combined.

2575 Manufacture of **Baryta**, *W. E. Gedge, London.—June* 14, 1881. —*(A communication from E. J. Maumené, Lyons, France.)* 4*d.*

This relates to an improved process of manufacturing baryta.

2512 **Bottle-wrappers**, *H. J. Haddan, London.—June* 9, 1881.—*(A communication from B. D. Marks, Louisville, U.S.A.)* 6*d.*

The wrapper consists of a thin sheet or veneer of wood, paper, or metal, with ridges or flanges on its outer side, which serve to strengthen the wrapper and also prevent the bottles being broken by coming in contact with each other.

2513 **Bottle-wrappers**, *H. J. Haddan, London.—June* 9, 1881.—*(A communication from B. D. Marks, Louisville, U.S.A.)* 6*d.*

A cord, band, or strip of paper is wrapped spirally round the bottle, and to its lower edge a veneer of wood is secured, while strips of soft elastic material are fastened inside the veneer so as to come into contact with the bottle.

2637 **Cigarettes** and Cigarette-papers, *H. Black, London.—June* 13, 1881. 2*d.*

This consists in the application and employment for coating the ends or mouthpieces of cigarette-papers of a solution of pyroxylin or gun-cotton, ordinarily known as collodion.

2097 Coffee Substitute, *R. Hall, Lindley, York.—May* 13, 1881.—*(Provisional protection not allowed.)* 2*d.*

The materials employed are lentils, the kernel and shell of English and foreign nuts, browned linseed, browned wheat, browned liquorice, browned sugar, raw sugar, and treacle.

2741 Treating Vegetable Substances for **Colouring Matter** for Stout and Porter, *A. Gough, Buckingham.—June* 22, 1881. 4*d.*

This relates to treating mangold wurzel and other roots to render the same suitable for use as colouring matter.

2361 **Disinfectant** and Antiseptic Compounds, &c, *T. F. Scott, Surrey.—May* 30, 1881.—*(Not proceeded with.)* 2*d.*

Oxide of manganese is mixed with a potash sulphate of alumina, or potash alum, and fused, producing a combined salt of potassium manganate or permanganate of alumina.

2302 **Explosive Compound** *S. H. Hinde, London.—May* 25, 1881.—*(A communication from R. E. Sjöberg, Stockholm.)* 2*d.*

The compound is made of the following:—64 parts nitro-glycerine, 12 parts nitrate of ammonia, soda, or urea, 0·25 part palmitate of cetyl, 0·25 part of carbonate of lime, 23 parts prepared vegetable or animal charcoal, 0·50 bicarbonate of soda.

2320 Manufacture of **Finings**, &c., *G. W. Ewens, Bristol.—May* 26, 1881. 4*d.*

This consists in the employment of extracts made from the skin of animals when used in combination with extracts made from Irish moss or other seaweeds.

2377 Manufacture of **Finings** for Clarifying and Preserving Ales, &c., *C. J. T. Digby, Hammersmith.—May* 31, 1881. 2*d.*

The refining or clarifying and preserving mixture is composed of from 4 lbs. to 5 lbs. sulphuric or acetic acid, which is poured over from 7 lbs. to 8 lbs. of oyster-shells and left in an air tight vessel for from five to six hours, after which an equal quantity by weight of water is added, and the vessel again closed for five or six hours. 3 lbs. or 4 lbs. of gelatine is placed in a second air-tight vessel with about 27 gallons of water and well agitated each day for three days. The two mixtures are then poured together and well agitated, after which the vessel is closed air-tight for about two days, when the compound is ready for use.

2462 Treatment of Soap Leys, **Glycerine**, &c., *C. Thomas, Bristol, and A. Dommier, London.—June* 4, 1881. 6*d.*

This relates to means of obtaining crude glycerine and other useful products from soap leys, and to remove from the crude glycerine the disagreeable smell and taste that remain in it.

3995. Transporting, Preserving, and Reconstituting or Reviviying Pulpy **Fruits**, *H. A. Bonneville, Paris and London.—September* 16, 1881.—(*A Communication from D. Cornilliac, Paris.—(Complete.)* 2*d.*

This consists in submitting the fruits to the action of alcohol for the purpose of transporting them, and subsequently eliminating the alcohol and reconstituting the fruit in its primitive state.

2649. Manufacture of **Gypsum** and Magnesia, *C. Scheibler, Berlin.—June* 17, 1881.— (*Not proceeded with.*) 2*d.*

This relates to the treatment of caustic dolomite, or burnt dolomitic lime, or burnt calcareous magnesite, with sulphate of magnesia.

2403. Making **Paint** with the Refuse from Arsenic Furnaces, &c., *D. Brown, Falmouth, and R. Michell, Combe Hill, Cornwall.—May* 31, 1881. 2*d.*

The arsenic refuse obtained from crude arsenic after burning is either ground and mixed with ochre and with oils to form paint, or is incorporated with tar or pitch, and used to preserve wood and iron.

2682. Treatment of **Soap**, &c., *W. Green, St. Lawrence, Kent.—June* 18, 1881. 4*d.*

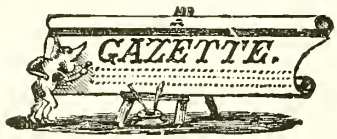
This consists partly in the treatment of petroleum, shale oil, or other mineral oil, grease, or fat, with an alcoholic solution of submuriate of potash and caustic soda, and with silicate of soda or potash.

2581. Preparation of **Stains** and Materials for Polishing, *C. M. Sombart, Magdeburg, Germany.—June* 14, 1881.—(*A communication from G. Glafey, Nürnburg, Bavaria.*) 2*d.*

This consists in the use of carnauba wax in a hydrated state combined, with metallic and other oxides and colouring matters for preparing stains, polishing, and scouring matters.

2695. **Vermin killer**, &c, *W. Hagelsieb, London.—June* 20, 1881.—(*Not proceeded with.*) 2*d.*

This consists of 1 part seilla maritima, 1 cheese, 1 flour, and 1 fat.



BANKRUPTS.

Chambers, James, chemical and varnish manufacturer, oil and colour merchant, wine, spirit, and beer dealer, and Italian warehouseman, 124 Fenchurch Street, under firm of James Chambers & Co. and Mason, Mortlock & Co., and 291 Old Street, City Road, also at Hackney, Pimlico, Bethnal Green Road, Paddington, and 90 Highbury, and Camberwell. January 31.

Williams, Alfred Charles, homœopathic chemist, druggist, medical electrician, scrivener, and money lender, trading as proprietor of the British Equitable Financial Association, and British Equitable Deposit Bank (Registered), of Ackland House, 15 Philbrick Terrace, Nunhead Lane, and Peckham Rye, Ludgate Circus, and Lewisham. January 27.

LIQUIDATIONS.

Bainbridge, Thomas, 73 Queen Street, Millom, chemist and druggist. January 10.

Brown, Anguis Sinclair, Saint Sepulchre Gate, Doncaster, chemist. January 25.

Buse, John, jun., 208 Bute Road, Cardiff, trading as Williamson & Co., chemist. January 27.

Clue, George May, 31 Butcher Street, Portsea, and Cleopatra Terrace, Sultan Road, Landport, chemist and druggist. January 11.

Johnson, John, 31 Snow Hill, Birmingham, and Rednal, druggist and oil and colour merchant. February 7.

Lee, Thomas, 106 Brunswick Street, Chorlton-on-Medlock, Manchester, chemist and druggist. January 13.

Leslie, George, 90 Broomhall Street, and 115 Pond Street, Sheffield, late in copartnership as mineral-water manufacturer at 10 Langdon Street, Sheffield, under firm of George Leslie & Co., chemist and druggist. February 7.

Lindley, Henry, 57 South Street, Sheffield Moor, Sheffield, chemist and druggist. January 6.

PARTNERSHIPS DISSOLVED.

Albright & Wilson, Oldbury, manufacturing chemists. December 31. (Arthur Albright, John Edward Wilson, Jacob Hort Player, William Arthur Albright, George Stacey Albright, and John Wilham Wilson) as regards Player.

Bailey, William, & Son, Wolverhampton and Ettingshall, and elsewhere, manufacturing chemists. January 23. (William Bailey and Vincent Bailey.)

Blackadar & Ball, Church Street and Wingfield Street, parish Portsea, druggists and drysalters. January 11. (Henry William Blackadar and Charles Samuel Ball.) Debts by Blackadar.

Griffiths & Cooke, Farm Street, Birmingham, aquafortis and chemical manufacturers. December 31. (Joseph Griffiths and Francis Cooke.) Debts by Cooke.

Harvey, Shepherd & Co., Charterhouse Square, druggists' sundry dealers. January 21. (John James Harvey, Joseph Ashton, and Alfred Somerville Augustus Dodson) as regards Dodson. Debts by remaining partners.

Pilling & Graham, Salford, dealers in druggists' sundries. January 12. (William Pilling and John Morgan Graham.) Debts by M. Wood (Pilling & Graham), New Bailey Street, Salford.

Reynolds, Harvey & Co., Commercial Street, Briggate, and White Horse Street, Leeds, retail pharmaceutical chemists and druggists and makers of mineral waters. October 22. (Richard Reynolds and Freshfield Reynolds.) Debts by R. Reynolds.

Roberts & Co., New Bond Street, St. George's, Hanover Square, chemists and druggists. December 31. (William Townsend Shorthose and Headley Noah Backhouse.) Debts by H. N. Backhouse, 76 New Bond Street.

Walker Brothers, Brighton Street, Seacombe, and Little Brighton, chemists and druggists. January 3. (Joseph Walker and John Henry Walker.)

Personalities.

Mr. T. Lockwood, of York, has purchased the business of Mr. Thomas Fisher, of Otley.

Mr. R. S. Chiers, from Messrs. Godfrey & Cooke, London, is about to open at Bridge Street, Warrington.

Mr. F. Harwood Lescher was balloted for and elected a fellow of the Chemical Society on January 19.

Mr. J. Billington has bought the business of Mr. Marsden at 230 York Road, Manchester.

Mr. Thomas Parkins has succeeded to the old-established business at 271 Chapel Street, Salford, lately carried on by Mr. J. Hall, and formerly by Mr. J. Sharp.

The honorary membership of the Pharmaceutical Society of St. Petersburg has been conferred upon Professor Attfield, F.R.S., "in consideration of services rendered to pharmacy."

Mr. Martenson, President of the St. Petersburg Pharmaceutical Society, received from the Emperor of Russia on Christmas Day last, the decoration of the order of Vladimir.

Mr. Blackett, late President of the Pharmaceutical Society of Victoria, was recently elected member for Fitzroy in the Victoria Legislature. He had formerly represented the same place in the Legislature.

Mr. James George Frazer, M.A. of Cambridge University and Fellow of Trinity College there, a son of Mr. D. Frazer, of Glasgow, was last month called to the Bar by the Honourable Society of the Middle Temple, London.

Messrs. Jameson & Curtis, who have already two pharmacies in Hastings, besides one in Baker Street, London, have lately opened an elegant shop in the Grand Parade, St. Leonards. Messrs. Treble & Son, of London, and Mr. Herbert Vidler, of Hastings, supplied the fittings.

We notice that Dr. Oscar Oldberg has been engaged by Messrs. Richardson & Co., of St. Louis, to take charge of extensive pharmaceutical laboratories which they have recently erected. Dr. Oldberg was, it will be remembered, a delegate at the International Pharmaceutical Congress in London last year, and at that time he was associated with the firm of W. H. Schiefflin & Co., of New York. He was previously Medical Purveyor of the U.S. Marine Hospital Service at Washington, and has also made himself a reputation as a pharmaceutical author. Dr. Oldberg is of Swedish birth. The friends whom he made in this country will heartily wish him success in his new enterprise.

Exchange Column.

ADVERTISERS IN THE EXCHANGE COLUMN will find it very much to their advantage to draw up their announcements so that they will fall naturally into one of the divisions into which the advertisements are grouped.

We would also suggest that those who avail themselves of the Disposal section will be wise to do it with some approach to detail, what they have to sell. Probable purchasers are too busy in most cases, to enter into preliminary correspondence, which is likely enough to have no ultimate result.

TERMS.—Announcements are inserted in this column at the rate of one halfpenny per word, on condition that name and address are added. Name and address to be paid for. Price in figures counts as one word.

If name and address are not included, one penny per word must be paid. A number will then be attached to the advertisement by the Publisher of THE CHEMIST AND DRUGGIST, and all correspondence relating to it must be addressed to the "Publisher of THE CHEMIST AND DRUGGIST, Colonial Buildings, Cannon Street, London, E.C.," the envelope to be endorsed also with the number. The Publisher will transmit the correspondence to the advertiser, and with that his share in the transaction will cease.

Deposit of Money.—In order to ensure safety we offer the following system:—The purchaser of anything advertised in the Exchange Column may remit the amount to us. We will all acknowledge receipt to both parties by postcards, and shall only pay it away on the advice of the remitter. Whether returned to him or paid to the seller, we shall charge a commission of 2½ per cent. on any money thus passing through our hands, and not less than 6*d.* on any single transaction.

Dental and Surgical.

Two guinea head-rest (ash), suitable for any chair in dental operating-room. 152/9.

Handsome dental show-case for angle, 11 inches each angle, 4 inches deep, 18 inches high, cost 5*l.*, take 30*s.* Weston, Ventnor, I.W.

Field amputating-case, dressing, dissecting, and post-mortem cases, cupping cases, brass enemas, cheap. Facies, 5 Camden Villas, Chirland Road, London.

Nine tooth instruments (various), good condition, late the property of a surgeon; price 5*s.*, or will take three dozen patents, Holloway, Cockle, or Scott's pills. Apply, James Watson, Rose Corner, Norwich.

Drugs and Chemicals.

Oil. anan, drugs, vials, &c. 236/49.

Pulv. rhei. opt., finest quality, only little dark, very suitable for Gregory, pills, &c.; pottle bottles, 3*s.* per lb., cash or good exchange. Alexander, Chemist, Edinburgh.

6 oz. otto, 25*s.*; 5 oz. virgin opt., 28*s.*; 3 oz. ol. geranii gal. opt., 3*s.* 6*d.*; 3 oz. ol. cedrat, 2*l.*; 3 oz. ol. cognac, 3 oz. ol. chimaphila, 4 fers; 1 lb. capsicine, 12*s.*; 1 lb. gingerine, 15*s.*; 1 lb. strong ess. musk, 16*s.*; 1 oz. grain musk opt., 85*s.*; 4 oz. ess. ambergris, opt., 9*s.*; ½ lb. ess. tonquin opt. alb., best quality. Greig, 591 Old Kent Road, London.

Sp. nit., 10 lbs., 25*s.*; sp. ammon. ar. 10 lbs., 5*s.*; pul. pot. nit., 28 lbs., 7*s.*; gum benz., 1 lbs., 14*s.*; sulph. sub., 1 cwt., 14*s.*; Morson's pepsin, 3 oz., 6*s.*; revalenta, 6 lbs., 3*s.* 6*d.*; Locock's wafers, 1 dozen, 7*s.* 6*d.*; No. 4 Cologne, 3 dozen, 46*s.*; Hunt's caps, 2 gross, 10*s.*; soda-water corks, 60 gross, 10*s.*; demy, 6 reams, 19 lbs., 45*s.*; ditto, 1 lbs., 51*s.*; copying-press, 20*s.* Day & Co. Herne Hill, S.E.

Proprietary Articles.

Myer's cattle spice, in bags, 15*s.* per cwt., or offer. 150/25.

Three-and-a-half cwt. Myer's cattle spice, 24*s.* cwt., or offers. 153/31.

One doz. Rumsey's 1*s.* plate powder, 5*s.*; 1 doz. Rumsey's 6*d.* ditto, 2*s.* 6*d.*; 1 doz. Rumsey's 1*s.* powder for steel, 5*s.*; 1 doz. Rumsey's 1*s.* polishing paste, 4*s.*; 1 doz. Rumsey's 6*d.* ditto, 2*s.* 6*d.*; 1 doz. Rumsey's 1*s.* furniture polish, 5*s.*; all in perfect condition. 15/15.

Apparatus.

Nearly new; Pinder's pill machine, with piping-press complete; cost 10*l.*, price 7*l.* Address, James Watson, Rose Corner, Norwich.

Halse's galvanic apparatus for sale, secondhand; cost 5*l.* 5*s.* 18 months ago, and has not been used: what offers? Shirtliffe, 143 Highgate Road, N.W.

Nearly new glass displacement apparatus, as fig. 53 in Maw's list; half-gallon size; price 23*s.* Apply, W. J. While, Chemist, London Street, Reading.

Analytical scales, as fig. 76 Evans' (Liverpool) list, with weights 1,000 grains down to one-tenth grain, perfectly new, cost 55*s.*; sent, carriage paid, 40*s.* D. H. Georges, Wellington, Salop.

Enamelled-iron evaporating-pan, jacketed for steam, size inside 18 by 12 deep, on iron stand, price 4*l.*, in perfect condition; marble mortar with long wood pestle, very large size, 3*l.*; 1-gallon tincture-press, 2*l.* "Chemist," 34 High Street, Putney.

Educational.

Notes, lessons, aids, lectures, by which I passed the Minor, free 5*s.*; small Major herbarium, 5*s.* 6*d.* A. P. S., 31 Argyle Square, W.C.

Four Rae's prize medal microscopes, 7*s.*; particulars on application. Bat, 23 High Street, Guildford.

Large astronomical telescopes, cheap; Powell & Leland microscope, lathe, and a quantity of turning wood. "A. B.," 34 High Street, Putney.

A complete lot of chemical apparatus and material suitable for forming an experimental laboratory for a student's use; list of contents on application to Spring & Bell, Chemists, Brigg, Lincolnshire.

Set of illegible autograph prescriptions (original), 2*s.* 6*d.*; 30 prescriptions (catch and difficult) given to dispense at Minor during past 12 months, 2*s.*; 50 questions asked of successful students at last Minor, 1*s.* 1*d.*; lot of cheap, almost new, books, stamp for list Saunders, 79 Gaisford Street, N.W.

Literature.

See advertisement in January's *Chemist and Druggist*. Jones, Pharmacist, Treherbert.

Pharmaceutical Journal, posted day after publication, 2*s.* 9*d.* per quarter, post free. Bathe, Chemist, Torquay.

Pharmaceutical Journal, 1879, 1880, 1881, all numbers complete, unbound; what offers? M. Smith, Mill Street, Aberdare.

Lizar's "Anatomical Plates and Letter-press," 1*l.* 10*s.* 6*d.*; Muspratt's "Chemistry," two volumes, 1*l.* 10*s.* Moore, Chemist, Cheltenham.

Lescher's "Elements of Pharmacy," 3*s.*; Muter's "Pharmaceutical Chemistry," 5*s.*; "Analytical Chemistry," 3*s.*; Attfield's "Chemistry," 5*s.*; Crookc's "Select Methods in Analysis," uncut, 5*s.*; Muter's "Materia Medica," 6*s.*; Thorpe's "Quantitative Analysis," 2*s.*; Frankland's "Organic Chemistry," 1*s.* 6*d.* H. Crompton, Stanley Street, Bury.

Beasley's "Pocket Formulary," ninth edition; Squire's "Companion to B.P.," sixth edition; Chambers' "Latin-English and English-Latin Dictionary," 1873; Attfield's "Chemistry," sixth edition; Roscoe's "Lessons in Elementary Chemistry," 1869; Ede's "Practical Facts in Chemistry," 1850; all in first-rate condition. What offers "Alpha," 39 Aire Street, Goole.

Optical.

Stock of spectacles, cost 10*l.*; what cash offer? Hambridge, Highworth.

Soda-water Plant.

A quantity of 6-doz. soda-water cases. William Thirlby, Leicester.

Barnett & Foster have some second-hand soda-water machinery of their own make for sale. Apply 237 Forston Street, Shepherdess Walk, N.

First-class soda-water machine, nearly new, or hand or power, warranted, 45*l.*; 10-gallon lead generator, large copper gasometer, bottling-rack, filter, &c. Chemist, 34 High Street, Putney.

Shares.

Two 1*l.* shares in Chemists' Aërated Waters Association, 1*l.* each or offers. 147/14.

One 10*l.* share in Chemists' Mineral Waters Association. Applications to A. B., 54 High Street, Stroud.

Shop Fittings.

Handsome window show-carboys, specie-jars; very cheap. J. Allen, Chemist, Plymouth.

Two pear-shaped carboys, as fig. 2 Maw's, 3 gal's. Parker, Chemist, Uttoxeter.

Six 80-oz. lozenge-bottles with shield labels; 8 white flint jujute-jars with gold labels, as fig. 50 Maw's, quite new; what offers? Parker, Chemist, Uttoxeter.

The entire fixtures of seven chemists' shops for disposal, price 40*l.*, 47*l.*, 52*l.*, 65*l.*, 70*l.*, 75*l.*, 120*l.*, great bargains. Lloyd Rayner, 333 Kingsland Road, London, N.

Mahogany show-case for counter, 6 ft. long, 8 in. high, 21 in. wide, thick plate-glass top, sides silvered glass; in splendid condition; six guineas. Moore, Chemist, Cheltenham.

Willing's electric show-boards, moving eyes, and letters "Crystal Pebble Spectacles"; what offers? or exchange for Dirty Boy or anything else. Hamilton & Jones, Market Place, Bangor.

Counter, 12 ft. long, mahogany top, fitted with drawers; four 6-gallon carboys, with mahogany blocks; several nests of drawers; shop bottles, iron stove, &c. Send stamped envelope for list, stating wants, to Blackwell, Chemist, Birmingham.

Four gross of bottles, consisting of 12 Winchester quarts, 60 Corbyn quarts, 40 stoppered bottles, the remaining Winchester pints and half-pints, pottles, &c.. 1*l.* per gross; ready for use. Apply to H. W., 215 Waterloo Road, S.E.

1,500 shop-bottles, 800 large and small ointment and ext. jars, 85 window-carboys, 21 specie-jars (with Royal and other arms), 120 handsome show-jars (as fig. 9 Maw's), and every description of utensil required by the trade. Lloyd Rayner, 333 Kingsland Road, London.

Twelve dozen narrow and wide shop rounds, 7*0s.*; excellent 8-ft. mahogany-top counter, 20 drawers, 3*l.*; handsome mahogany counter case, 40*s.*; long case, 8 ft. 6 in. by 2 ft., 30*s.*; three nests drawers, 7 ft. 6 in., 7 ft., and 5ft., 3*l.* 10*s.*, 3*l.* 5*s.*, 2*l.* 10*s.*, all good; four 2-gallon pear-shaped carboys, 16*s.*; various pots, jars, shelving, all very cheap, to clear quickly. J. H. Dixon, Gleadless, Sheffield.

Nearly new nests of drawers and shop rounds, store bottles, shop jars, show bottles and specie jars, desks glazed, cases counter and wall, lamps and irons, dispensing screens, shelving, counter-cases for cigars, tobacco jars, two mahogany doors embossed glass, sheet plate-glass in mahogany frame 5 ft. 10½ high, 4 ft. 10½ wide, scales, medical books, surgical and tooth instruments, 4 oz. eau de Cologne bottles 9s. gross, and various shop-fittings, all cheap, to clear out. 846 Old Kent Road.

20 nests of mahogany-fronted chemists' drug-drawers, French polished and fitted with glass knobs, in nests from 2 feet to 12 feet long, price from 2s. per drawer; over 200 feet mahogany-edged shelving; mahogany-top counters; desks and cases, and other chemists' fittings; large centre-table case, suitable for chemists, grocers, perfumers, cost 80l., cash price 8l.; handsome dispensing counter, cost 40l., price 25l. Apply, B. & G., 22 Gun Street, Brushfield Street, Bishopsgate, London.

12 doz. good shop-rounds, average price 7s. 6d. per doz.; 24 4-lb. lilac jars for ointment, 20s. doz.; 24 4-lb. olive-green, 20s. doz.; 24 2-lb. green, 12s. doz.; a quantity 4 lb. and 6-lb. white jars, japanned covers, in first-rate condition, 12s. doz.; 8-lb. brown ditto ditto, 15s.; a quantity of glass-capped ether bottles, from 2 oz. to 10 oz., 33 per cent. under Maw's price-list; Wedgwood mortars; tincture-press, almost new, 1 gall., 25s. E. Natali, 207 Old Street, Shoreditch end, London. *All numbers refer to Maw's new list.*

16 ft. nest drawers, with fixtures and shelving over; 17l.; 12 ft. fixture, as Maw's fig. A 84, bevelled glass labels, all equal to new, 16l.; 10 ft. fixture, 10l., drawers, shelving, lockers, and cornice complete; glass wall-case, with cupboard under, 3ft. wide, 9ft. 3in. high, 90s.; 18 ft. mahogany-top counter, fitted with drawers the entire length, 10l.; a 6 ft. mahogany counter, plate glass cases in front, equal to new, 7l.; a quantity shop drawers, mahogany fronts, gold labelled, from 1s. 6d. per drawer; good deal-fronted ditto, at 1s. per drawer. E. Natali, 207 Old Street, Shoreditch.

Plate-glass counter-cases, equal to new, as fig. A 18, 5 ft. long, 6l. 10s.; 6 ft. long, 7l.; do. do., 8 ft. long, 8l. 10s.; 3 ft., as fig. A 3, 40s.; 4 ft. long, 50s.; as fig. A 16, 3 ft. long, 60s.; 3 ft. 6 in. long, 70s.; 4 ft., as fig. A 17, 85s.; as fig. 99, 5 ft. 8 in. long, 7l.; bent plate-glass tooth-brush case, 30s.; do. do., fig. A 9, 30s.; also several others; a number of plate-glass wall-cases, from 4 ft. long, very cheap; an upright glass case, 5l.; soda-water stand, fig. A 57, 50s.; cigar-case, fig. A 33, plate-glass, 3 ft. long, 60s.; 8-ft. bent plate-glass counter-case, 9l. E. Natali, 207 Old Street, Shoreditch.

2 ft. long, 4 ft. long, 6 ft. long, 8 ft. long, 10 ft. long, and 12 ft. long mahogany-fronted, dovetailed drawers, glass knobs and bevelled edges, glass labels, 2s. 9d. per drawer; if with gold labels, 2s. 6d.; if with mahogany knobs, 2s. 3d. (some nests have two rows of small and two rows large drawers, and others three rows small and two rows large drawers); a number of mahogany cupboards from 3 ft. to 9 ft. long; deal, painted, lockers, from 4 ft. to 16 ft. long; mahogany-fronted shelving, any length; mahogany cornice, pilasters, and uprights for shelving; 50 mahogany-top counters; a mahogany-fronted counter, with circular end, a bargain; a 7 ft. wall-case, fig. A 86, 14l.; a number of wall-cases, from 3 ft. 6 in. to 12 ft. long, very cheap; two mahogany wall cases, 3 ft. long, 34 in. high, 35s. each; a mahogany wall-case, 3 ft. long by 28 in. high, 40s. Sketches, with descriptions, free. E. Natali, 207 Old Street, Shoreditch.

Plate-glass sponge case, fig. A. 41, 65s.; do. do., fig. A 43. 5l.; desk and glass case, fig. A 32, 65s.; 4-ft. 6-in. dispensing-screen, with tablet on top, plate-glass doors, and polished mahogany, 90s.; a 5-ft. do., do., 5l.; 6-ft. do., do. do., 6l.; 3 very elaborate dispensing-screens, 5 ft. long, 6 ft. long, and 7 ft. long, fitted with a plate-glass case at each side, with silvered plate-glass centre, with marble slab in front, surmounted with tablets, &c., "Dispensing Department," fitted inside cases, with silvered-glass backs and shifting shelves, also fitted at back with three shelves for dispensing bottles, each 8l. 10s.; very elaborate specie jars, royal arms, &c., 89s. a pair; opaque jars, elaborately labelled, glass gold covers, fig. D. equal to new, 8s. each, worth 12s. E. Natali, 207 Old Street, Shoreditch.

Mahogany-top counter, full of drawers, 12 ft. long, 80s.; 10 other counters, cheap; nests of drawers, 2, 4, 5, 6, 8, 10, and 12 ft. long; wall-case, painted mahogany, 6½ ft. long, 9 ft. high, 90s.; painted mahogany wall-case, 10 ft. long, 130s.; wall-case, pine, 6½ ft. long, 70s.; several lots of top fixtures, 30s. to 60s.; good fittings for an entire shop, 35l.; case to go before desk, mahogany; 30-in. ditto high, 24 in. long, 30s.; mahogany desks, 15s. to 30s. each; label-drawers, 4s. 6d. to 6s. each; a 5-ft. bent front case, 57s. 6d.; a 7-ft. ditto ditto, 80s.; dispensing-screens with mirror centres, 5, 5½, 6, 6½, 7, 8, 9, 10, 12 ft. long, 80s., 90s., 120s., 130s., 130s., 150s., 160s., 180s., 200s. each; a large lot of ointment-jars and pill-jars, all sizes; 100 specie-jars, new and second-hand, all sizes, some very large and handsome; 150 show carboys for windows; a lot of stock bottles, 1-gallon label, 1s. 8d. each; second-hand pill machines, Wedgwood mortars, scales, and all material for fitting shops, rounds, &c. Full particulars sent on application to Richard Tomlinson, 15 St. Paul's Square, Birmingham.

Three handsome mahogany glass-case fronted counters; 4 handsome mahogany-fronted counters; 15 mahogany-top counters, grained, panelled, and moulded fronts, all sizes; 35 nests mahogany-fronted deal dovetailed shop-drawers, with glass and gold labels; 9 nests deal stained mahogany-fronted gold-labelled shop-drawers; 8 nests mahogany and deal fronted shop-drawers, suitable for grocery or drysaltery goods; 18 handsome mahogany wall-cases, from 2 ft. to 24 ft. long; 10 ft. long, 12 ft. long, 14 ft. long, 15 ft. long, 20 ft. long complete shop-fittings, as 190, 191, 196, 197 Maw's old list; quantity mahogany-faced shelving, 5 window enclosures; handsome dispensing-screens, as fig. 40, 163, 164, 165 Maw's old list; 5 handsome dispensing-screens, with mirror-centre and marble slab, and a case at each end, all lengths; mahogany cigar-cases, as fig. 53 Maw's, cases and desks, as fig. 37, 21, 39 Maw's; soda-water stands, as 63 Maw's; sponge-cases, as 90, 92 Maw's; show-stands, as fig. 19, 54 Maw's; quantity handsome counter-cases, as fig. 3, 8. 16, 43, 72, 73, 95, 99, 103, 105 Maw's old list; and every description of fixtures and show-cases required by the trade. Lloyd Rayner, 333 Kingsland Road, London, N.

Formulæ.

"Note this."—Twenty valuable and genuine recipes, post free for 5s. 142/27.

High-class horse and cattle spice, calf-rearing spice and poultry spice; bearing large profits; 10s. each, or 20s. for the three; for several years have enjoyed an extensive sale in Lancashire and Yorkshire, manufacturer declining business. 144/2.

Send for my list of recipes, 6d. each, six for 2s. 6d. "Chemist," care of J. Elwards, Wye, Kent.

The recipe for a very superior perfume, equal to "Mona Bouquet," price 3s. 6d.; sure to please. "Chemist," 20 Dean Street, Bedminster, Bristol.

Fragrant foaming dentifrice (like "Florilins"); marking ink, *sine* silver (aniline), writing executed defies chemicals; effervescing fruit saline (resembles Eno's); magic neuralgic drops (never-failing remedy); quinine and iron tonic (resembles Pepper's); lime-juice and glycerine (inseparable, white as milk); blue-black ink (non-corrosive, *sine* iron or galls); cherry tooth paste (never ferments, like Gornel's); brilliantine (inseparable, like Rimmel's); pill-coating, (pearly white, no mucilage or mastic used); glycerine jelly (perfectly transparent); crimson marking-ink; hair-restorer (colourless, no deposit, *sine* silver); aromatic vinegar; toilet vinegar (as Rimmel's); plate-powder (like Stevens' "Silicon"); Oleum Flavum Conc., for pomades (colour stable); soluble essence ginger (like Hay's); corn solvent, clear (not acid); liquor copaibæ comp. c. buchu et matico (mixes clear with water); gonorrhœa paste, excellent (Dr. Ricord's); taraxacum and podophyllin (resembles Pepper's); with many others; send stamp for list, stating wants. The toilet preparations are identical with those prepared by a wholesale West-end firm; others equally good; all inexpensive to make; 5s. each (five for 1l.). Readers are cautioned against cheap and worthless imitations. I was first to advertise formulæ in this journal. Note address, "Analyst," care of Mr. Warnes, 79 Gaisford Street, N.W.

"Entirely New Remedy for Toothache," gives instant ease, non-poisonous; "Nigerine," jet-black, waterproof patent blacking, cheaper, sweeter, and better than Nubian; "Digestive Relish," best and cheapest sauce in creation, from 3s. gallon: "Lupline Bitters," equal to American in every respect, one-third price; "Limes and Glycerine," elegant, creamy, snow-white, quite inseparable, pronounced best in market; "Foaming Dentifrice," resembles Floriline, costs one-eighth; "Rheumatic Embrocation," most excellent, cannot be surpassed in cheapness and efficacy; "Blood-purifying Powder" (London surgeon's recipe), popular spring and autumn remedy; "Anti-spasmodic Elixir," simple, reliable, always efficacious; "Camomile and Quinine Pills" for indigestion, &c., frequently preferred to Norton's; "Effervescent Depurative Saline," *facsimile* of Eno's, costs 10d. lb., entirely soluble, keeps well; "Cryptzymosis," certain speedy cure for gleet, &c.; "Mist. Gonorrhœa" (cubivi), nauseous taste masked, unfailing remedy; Hair-restorer" (*sine* sulphur), clear, sweet, economical, confidently recommended; "Liver Pills" (vegetable), gentle action, always effectual; "Lavender Water," superb fragrance, lasting, equals Sainsbury's; "Occasional Pills" (for ladies), most reliable, preferred to Widow Welch's; "Essence for Deafness," simple and effectual; "Podophyllin and Taraxacum," pleasant taste, vastly superior to similar preparations; "Pile Powders and Ointment," cure and prevent hæmorrhoids; "Quinine and Iron Tonic," bright and unchangeable, resembles Pepper's; "Worm Syrup," entirely vegetable, pleasant and rapid action; "Cattle Oils" (like Luddington's), guaranteed equal to any sold; "Glycerine Cough Linctus," truly invaluable, universally liked; "Ringworm Specific," certain rapid cure; "Tic Pills,"

equal'ed in efficacy, many testimonials; "Chlorodyne," inseparable, perfectly soluble, ite equals Brown's; "Marking Ink," delible, no waste, creditable to seller; Fumigating Ozonic Ribbon," cheapest, acetest, perfect disinfectant. All above aranteed genuine formulæ, are profitable, l may be honestly recommended with fidence. Price 1*s.* 1*d.* each, 3 for 2*s.* 6*d.*, 2 for 1*l.*, post free, with full particulars for king, &c., by T. Brooks, Chemist, Louth, cs. N.B.—Detailed list sent post free. ipes non-approved can be returned. I h to give purchasers entire satisfaction.

Miscellaneous.

Twel gross 1-oz. glazed pink pill-boxes for 25*s.* Harvey, Margate.

Large photographic roller press, 30*s*, bargain. Particulars, W. J. Cooper, Cockermouth.

4 doz. Mott's Leicestershire cowslip wine, sm ll champagne size; what offers? cash o books, F. Bottomley, Stocks Hill, Leeds.

A qua ity of suma litharge, lapis calaminaris, a various other stock; write for list; ca or exchange. Asber, Great Driffield, Yks.

Severe logsheads of good Devonshire cider for ss; 1*s.* per gallon, in 30-gallon casks; m es excellent vinegar and sauce. Chemist, 3 High Street, Putney.

New e troplated revolver, six-barreled, patent ej tor action, one of Carr's best make; co 4*l.* 15*s.*, will take 2*l.* 10*s.* cash. Joseph Jo es Caversham, Reading.

What ffers for Dahlke's filter, white ware, re ires new carbon; also Squire's "London Ho itals," third edition, good condition? Jo n Ekins, Chemist, Bedford.

Hall m ked silver lever, perfect, a genuine ba ain, 35*s.*, medium size; also a lady's go guard, a very neat pattern, only 39 5*d.* Gregson, Chemist, Blackburn.

Pfeide r's machine for masses, ½ lb. to 1½ lb., co 6*l.* 10*s.*, perfect; 2 cwt. Grindell's (of Hu) cattle condiment, retail 34*s.* per cwt. Of s to X., 54 High Street, Stroud, Gl cester.

Only a ut 6 doz. left—Endymion "scent," put up sprinkler bottles, each in a box neatly lab ed; sold well among Conservatives, at 1s. d.; sample post free 1*s.* Harvey, Ma ate.

Splendi six-air musical box, nearly new, perfect co tion, inlaid rosewood case, lively airs, cos 6 guineas, price 4*l.*, will send, on app val, particulars, &c. T. Brooks, Ch ist, Louth.

A first-class Cremona violin, Cremona copy, with handsome case and bow, in splendid playing order; cost 63*s.*; price, 27*s.* 6*d.*, approval. Miss A. Gregory, 2 Cross Lane, Windsor Bridge, Manchester.

2 cwt. mag. cit., 1*s.* lb; 1 cwt. sa'inc, 1*s.* 1*d.* lb.; stoppered salines, 1*s.* 6*d.* doz., large quantity; handsome French metal screw-cap bottles, all sizes, very cheap; also lot Maw's chest-protectors, all sizes. "D.," Maidstone.

Solid mahogany cabinet, 3 feet 3 by 23 by 19 inches, fitted with drawer and folding-doors, excellent condition, 28*s.*; also full-sized water-bed, best quality, new, price 3*l.* 10*s.* Halford, Chemist, New John Street West, Birmingbam.

Galvanised tank, extra quality, made for oil or spirit by Gospel Oak Company, size 30 by 30 by 74 inches, fitted inside stays, copper tap, and drainer, new three months ago, price 4*l.*; also measures, funnels, oil-jack, and few small lots chemicals, spice, &c., all new and fresh, very cheap. G. C. B., 23 Bunhill Row, E.C.

Elegant blue-and-white union bottle, chased gilt, also ruby, plain gilt, retail 2*l.*, 1*l.* 10*s.*; two ladies' hair-brushes, inlaid pearls, tortoiseshell tail, and dressing comb; gold scarf-pin, pointer's head; gold albert chain; cup Turkey sponge, retail, 1*l.* 1*s*; refrigerator; elegant dinner-service, complete, cost 12*l.*; American "Mistress" stove, full size, kettle, boiler, fitted; two tourniquets; indiarubber water-bed, Bailey's, 72 by 36; indiarubber mat, 96 by 48, cost 6*l.* 6*s*; offers for all or any. 141/20.

WANTED.

A quantity of 4-gallon glycerine-tins, empty. 152/20.

"The Watchmaker's Guide;" state price. 152/18.

A "You Dirty Boy!" cheap. Davies, Chemist, Rhyl.

Recipe Mona bouquet, reliable. Rogerson, Bradford.

Bracber's mixer. Dales, 237 Crystal Palace Road, S.E.

A 15-foot nest of drawers, or two of 7 feet each. Forbes, Reigate.

A 2 or 4 gallon tincture-press; state price. Green, Chemist, Swindon.

Large marble mortar. W. Fletcher, Chemist, Ilkeston, Nottingbam.

Musical boxes; in or out of repair; state lowest price. Brooks, Chemist, Loutb.

Bentley's "Botany." G. D., Mr. Poulton's, Courtenay Street, Newton Abbot.

Bradbury Cooper sbeep dips, quinine, acid tart. pulv., pulv. gent. (vet.). 146/12.

Dorvault's "L'Officine," cheap, recent edition. Taylor, 16 Tichborne Street, Quadrant, W.

Two or three small nests of drawers, and a few stoppered rounds. Parkinson & Co. Barnsley.

2*s.* given for *Chemist and Druggist* for February, 1879, and Index for 1880. Young, Chemist, Warrington.

A pair of edge-stones suitable for grinding drugs. Address, P. S., 35 Low Friar Street, Newcastle-on-Tyne.

Gum lahdani; quantity and price of any odd lots; also a 2 grain pill machine. Fouraker, Chemist, Exeter.

Petroleum or spirit barrels; state quantity and lowest cash price. G. C. B., 23 Bunhill Row, London, E.C.

Latin Pbarmacopœia; Royle's Materia Medica, latest edition. E. Coleman, 7 Worcester Street, Wolverhampton.

Formula for a non-poisonous efficacious sheep-dipping composition; premium given. Chemist, Stokesley, *vid* Northallerton.

8 feet length mahogany glass casing for counter-front, with hinged doors, in good condition. A. Parker, Chemist, Uttoxeter.

Latest editions Bentley's "Botany," Attfield's "Chemistry," John's "Flowers of the Field." Lowest price to Harvey, 23 High Street, Ilfracombe.

Secondband copies of Attfield's "Chemistry," Bentley's "Botany," "Pharmacopœia," Pereira's "Selecta è Prescriptis," latest editions; good condition; deposit. William Shepard, Quay Street, Newport, I.W.

Two good second-hand chemist's counters, each 12 ft. long, 2 ft. wide, and 3 ft. high, and each fitted with drawers suitable for the trade, and counters to have square ends. Give particulars to T. M. Jenkins, Chemist, North Street, Dowlais.

Pharmaceutical Journal for 1852, 1853, 1861–82; *Chemist and Druggist*, indexes for 1870 and 1868, also vols. 1860–65, 1869, 1879, and January and February, 1880, of *Chemist and Druggist*; state price and whether bound or unbound. William Inglis Clark, 9 Sutton Place, Edinburgh.

ADDRESSES AND INFORMATION WANTED.

The address of J. J. Gibson, maker of corn-plasters; any information respecting his whereabouts address in confidence. R. S. Bathe, Chemist, Notting Hill.

Miscellaneous.

CHEERING.—Dentist: "Well, sir, they talk about coming at the eleventh hour; but it's a quarter to twelve with all your teeth, I'm afraid."

HARD ON THE DOCTORS.—Doctors have a good deal to bear from anti-vaccinators, anti-vivisectionists, herbalists, and others; but the latest and worst insult comes from one of the Southern States, where a local legislator has introduced a proposal to make it obligatory to inscribe the name of the physician on the tombstones of deceased persons.

BUTTERINE.—American statistics show that 19,000,000 lbs. of oleomargarine were exported thence in one year. About 15,000,000 lbs. of this went to Holland, and the greater part of that quantity was re-exported to this country. It seems that an American inventor has "improved" the manufacture of oleomargarine by combining finely-powdered soapstone with it. A writer in *Nature* thinks if it is wrong when we ask for bread to be offered a stone, it must be equally so when we ask for butter.

FIENDISH OUTRAGE.—(On the morning when the *Times* announced that the barometer stood higher than it had for forty years).—Scientific Old Party.—"I've had this barometer hanging in my hall for thirty years, and I assure you, sir, I have never known it so *high*." Waggles (equal to any outrage for a joke).—"Oh, it's plain enough. Extraordinary mildness of the season. *You've kept it hanging too long!*"—*Funny Folks.*

A SCIENTIFIC SMUGGLER.—The Berlin *Montagsblatt* tells this story. In 1805 Humboldt and Guy-Lussac were in Paris, engaged in experiments on the compression of air. The two scientists found themselves in need of a large number of glass tubes. These were exceedingly dear in France at the time, and the rate of import was something alarming. Humboldt sent to Germany for the needed articles, and gave directions that the manufacturer should seal up the tubes at both ends, and put a label upon each tube with the words *Deutsche Luft* ("German air"). The air of Germany was an article upon which there was no duty, and the tubes were passed by the Custom officers without any demand, and arrived free of duty in the hands of the two experimenters.

THE openness of the season has been favourable to trade generally, though in many special trades, and to some extent in respect of many of the articles which chemists deal in, the absence of frosty weather occasions a considerable loss.

The year opens satisfactorily according to the official returns. The imports for January amount to 32,019,467*l.*, which is 5,276,505*l.* more than in January of 1881. The exports are 19,820,683*l.* in January, 1882, against 17,318,911*l.* in January, 1881. The comparison is not exactly fair, because at the beginning of last year navigation was much impeded by the weather. The improvement is fairly well distributed among the various industries, and this month chemicals share in it. The following are our usual figures concerning that trade as regards exports :—

	Jan., 1881	Jan., 1882
Alkali	.. cwt. 460,889	.. 481,020
Alkali	..value £138,315	.. £149,793
Other chemicals	.. „ £152,033	.. £152,766

The attempt to restrict the output of alkali has had no visible effect, the supply of most of the heavy chemicals being still largely in excess of requirements. The higher value of money at this moment, too, operates unfavourably by checking any tendency to speculation on the spring trade. On the whole, prices have declined. Bleaching powder has fallen back to the December prices, and the same may be said of all the alkali-works' products; the spurt in January seems to have entirely died away. There are fair prospects for the spring shipping trade; but, whatever it may be, manufacturers will no doubt be fully equal to it.

Cream of tartar is firm at an advance, in consequence of an actually deficient supply. Tartaric acid is steady at previous quotations; citric has been rather uncertain, having been sold at 2*s.* 1½*d.*, but it is now getting firmer again. The disturbance seems to have been partly caused by the forced sales of lemon-juice in Italy, traceable to the recent financial difficulties in France. Oxalic is still quoted at 6*d.* for best make first-hand, but second-hand parcels are obtainable at 5¾*d.*

Sulphate of ammonia is firm at an advance. Saltpetre is unchanged for refined, but crude is rather easier.

Sulphate of copper barely keeps up recent prices. Quicksilver has been put on the market at slightly lower quotations.

Quinine is weak at quoted prices, and German make is now on offer at 1*s.* less than last month. There still seems to be considerable uncertainty respecting the future of this product, as in some quarters it is still believed that the holders of a large proportion of the stock of bark in London, who have gone into this speculation with evident seriousness, will hold out long enough to force the quinine makers to submit to their terms. The indications are against them at present, as at the last bark sales the demand was particularly sluggish, and the prices at which the alkaloid-yielding varieties now stand are to an extent nominal.

The drug sales fixed for January 26 had to be put off for a day, in consequence of the dense fog which had prevailed all through the previous day preventing any proper inspection of samples. Further sales were held on the 9th inst. The most noticeable changes to record have been a reduction of from 3*s.* to 5*s.* per lb. in Mauritius Vanilloes, a considerable advance in Cape aloes; extreme prices for balsam of Peru (15*s.* per lb. having been paid on the 26th ult.); cardamoms, 3*d.* per lb. easier, and 1*s.* to 2*s.* per ounce reduction in musk.

Balsam of Copaiba is firmer; castor oil is in rather limited supply, and may experience a slight advance. Cubebs have arrived more extensively, and have been let go at lower rates. Ergot of rye is falling; jalap is firm from Vera Cruz; opium is unchanged, but firm; saffron is held for an advance of 1*s.* to 2*s.*; podophyllin is very scarce, and is consequently dear.

Opium is quiet, but firm here. Reports from Smyrna refer to severe injury to the poppy plantations from frost, as the ground was only partially covered with snow. Mr. Barker's report of January 14 says: "There seems to be some truth in these reports, as several telegrams have been received from the interior confirming the damage to the crop; still, on the other hand, holders of opium are always prone to give exaggerated accounts when their interests are at stake, consequently these rumours must be received with caution. Anyhow, the plantations can be renewed in February and March, but the early sowings are invariably the most productive." On January 28 he says: "The reports respecting the frost damage are very conflicting, but it would seem by all accounts hitherto received that the coming crop will be much smaller than the last unless the spring sowings are successful, and which can only be the case if we have abundant rains during the months of April and May."

CINCHONA BARK.—The sales on the 31st ult. were very flat. Buyers were very indifferent, and there was no appearance of speculative demand. The small quantity taken was bought at a reduction from the prices previously ruling. Up to that time the price had been forced up by speculative purchases. Private transactions since the sales have been made at a further reduction. Meanwhile, the arrivals continue on an enormous scale. The imports of "medicinal bark" into the United Kingdom in January, 1882, were returned at 17,718 cwt., or three times the quantity imported in January of either of the two previous years. The stock in London in first hands on January 31, 1882, was 55,516 packages, against 28,481 on January 31, 1881, and 11,650 on January 31, 1880.

GALLS.—China held firmly for 80*s.*; 77*s.* 6*d.* refused. Turkey are 60*s.* for blue, 50*s.* for green, and 45*s.* for white.

HONEY.—New Zealand has been on the market, and sold at 35*s.* to 44*s.* per cwt.

GUMS.—The chief feature of this market has been a considerable advance in animi, which is held firmly for stiff prices.

The isinglass sales of last month resulted in a slight advance in Brazil, West Indian, and Russian, and a trifling decline in East Indian.

OILS.—Seal is scarce, and held firmly for higher prices. Olive is rather easier for the better qualities, but stronger for Mogadore. Linseed and rape oils mark but slight change, the former being 2*s.* 6*d.* per ton higher, the latter 5*s.* lower. Turpentine has advanced to 42*s.* 6*d.*, but again stands at about last month's figure. Petroleum seems gradually acquiring a firmer position. It is about ¼*d.* higher than last month, and sales for March and June have been made at ⅛*d.* and ¼*d.* higher than current rates.

Messrs. A. & M. ZIMMERMANN report on the 13th inst. as follows respecting Continental products:—

Essence of Lemon has been neglected owing to the absolute absence of American purchases of new crop. There is, however, a very small stock in Sicily, and the very first call must have the effect of a sharp turn in the market.

Otto of Roses is without any demand for the present, while prices remain stationary.

Cod-liver Oil.—Stocks of last season are being now offered freely in anticipation of the new supply, which promises to be brought in at reasonable prices unless unforeseen difficulties should interfere. It is a well-known experience that the first parcels shipped represent the finest oil of the season, and early orders therefore are advisable.

Olive Oil.—The finest of this last cargo undoubtedly has been shipped from Leghorn. Prices there rule fairly firm.

Insect Flowers and Powder.—Prices have undergone a further decline owing to the good supply which is continuing to be brought to the market, but spring demands having now to be met it is reasonable to expect that we have now come to the lowest.

Quinine is for the present absolutely quiet.

Monthly Price Current.

The p es quoted in the following list are those actually obtained in Mi og Lane for articles sold in bulk. Our Retail Subscribers must not pect to purchase at these market prices, but they may draw from the useful conclusions respecting the prices at which articles are offe l by the Wholesale Firms.

	Last Month		This Month	
	s. d.	s. d.	s. d.	s. d.
CHE CALS.				
ACI —				
etic .... per lb.	0 3¾ to	0 0	0 3¾ to	0 0
pure ...... ,,	0 6 ..	0 9	0 6 ..	0 9
glacial .... ,,	0 11 ..	1 0	0 11 ..	1 0
azoic Sublimate ,,	6 0 ..	0 0	6 0 ..	0 0
Ex. Gum .. per oz.	0 9 ..	0 0	0 9 ..	0 0
ric .... ,,	2 3 ..	0 0	2 2 ..	0 0
lic .... ,,	3 3 ..	3 6	3 3 ..	3 6
drochlor ......per cwt.	4 6 ..	7 6	4 6 ..	7 6
ric .... per lb.	0 3½ ..	0 4	0 3½ ..	0 4
alic .... ,,	0 5⅞ ..	0 6	0 5⅞ ..	0 6
phuric .... ,,	0 1 ..	0 0	0 1 ..	0 0
icylic .... ,,	7 0 ..	9 6	7 0 ..	9 6
nic .... ,,	1 6 ..	2 7	1 6 ..	2 7
taric, English.. ,,	1 8½ ..	0 0	1 8½ ..	0 0
foreign .. ,,	1 8 ..	1 8¼	1 8 ..	1 8¼
ANTI NY, crude......per cwt.	34 0 ..	0 0	34 0 ..	0 0
star ...... ,,	54 0 ..	0 0	54 0 ..	0 0
ARSE , lump........ ,,	24 6 ..	0 0	24 6 ..	0 0
powder...... ,,	10 9 ..	0 0	10 9 ..	0 0
BRIM NE, rough .... per ton	127 6 ..	137 6	127 6 ..	137 6
roll ......per cwt.	8 9 ..	9 6	8 9 ..	9 6
flour...... ,,	10 9 ..	12 6	10 9 ..	12 6
GLYC NE, German				
refi l............. ,,	120 0 ..	136 0	120 0 ..	136 0
cru brown .... ,,	75 0 ..	95 0	75 0 ..	95 0
Iod rm .... per lb.	14 0 ..	14 3	14 0 ..	14 3
IODIN dry .... per oz.	0 6 ..	0 0	0 6 ..	0 0
resublimed .. ,,	0 8 ..	0 0	0 8 ..	0 0
MAGN IA, calcined .. per lb.	1 0 ..	1 6	1 0 ..	1 6
Hwds.	5 0 ..	0 0	5 0 ..	0 0
MERC Y ....per bott.	125 0 ..	0 0	120 0 ..	0 0
PRECI TATE, red...... per lb.	3 0 ..	0 0	3 0 ..	0 0
white .. ,,	2 11 ..	0 0	2 11 ..	0 0
PRUSS N BLUE ...... ,,	0 0 ..	0 0	0 0 ..	0 0
SANTO NE .... ,,	15 9 ..	18 3	15 9 ..	18 3
SALIC .... ,,	10 0 ..	0 0	10 0 ..	0 0
THYM .... ,,	24 0 ..	0 0	24 0 ..	0 0
SALT -				
Alu .... per ton	120 0 ..	125 0	122 6 ..	125 0
powder ...... ,,	135 0 ..	140 0	137 6 ..	0 0
Am nia :				
C onate .... per lb.	0 6¼ ..	0 6½	0 6¼ ..	0 6½
Hyd chlorate, crude,				
w e .... per ton	600 0 ..	760 0	600 0 ..	760 0
Sulp te............ ,,	405 0 ..	425 0	430 0 ..	440 0
Argol, pe ....per cwt.	80 0 ..	98 0	80 0 ..	98 0
ed............ ,,	65 0 ..	80 0	65 0 ..	80 0
porto. red .... ,,	36 0 ..	36 6	36 0 ..	36 6
Bleach g powder .... ,,	5 6 ..	0 0	5 0 ..	5 3
Borax, ritish refined.. ,,	61 0 ..	62 0	61 0 ..	62 0
Calom .... per lb.	2 8 ..	0 0	2 8 ..	0 0
Chlora ydrate ...... ,,	4 5 ..	4 7	4 5 ..	4 7
iebreich's .... ,,	5 6 ..	6 0	5 6 ..	6 0
Copper				
Sulp te ....per cwt.	20 9 ..	21 0	20 6 ..	21 6
Copper, green .. .. per ton	45 0 ..	50 0	42 6 ..	45 0
Corros Sublimate .. per lb.	2 1 ..	0 0	2 1 ..	0 0
Cream rtar, French..per cwt.	121 0 ..	123 0	123 0 ..	123 6
brown .. ,,	102 6 ..	0 0	106 0 ..	0 0
Epsom lts .... ,,	4 0 ..	4 9	3 9 ..	4 0
Glaube alts.......... ,,	4 3 ..	5 3	4 3 ..	5 3
Magne : Carbonate	42 6 ..	0 0	40 0 ..	0 0
Pond Iwds.	72 0 ..	0 0	72 0 ..	0 0
Morph Murias ...... ,,	7 0 ..	0 0	7 0 ..	0 0
Phosph us .... per lb.	1 11 ..	2 0	1 11 ..	2 0
Potash				
Bich nate .... ,,	0 6 ..	0 0	0 6 ..	0 0
Carb ate :				
Po hes, Canada,				
1 sort ....per cwt.	29 6 ..	30 0	29 0 ..	0 0
Pe ashes, Canada,				
1 sort .... ,,	35 0 ..	0 0	41 0 ..	0 0
Chlo e............ per lb.	0 5⅞ ..	0 0	0 5⅞ ..	0 0
Prus te .... ,,	0 10¼ ..	0 11	0 10¼ ..	0 11
red........ ,,	1 10½ ..	0 0	1 10½ ..	0 0
Sulp te............ ,,	9 0 ..	10 6	9 0 ..	10 6
Potass :				
Brom e............	1 5 ..	1 6	1 5 ..	1 6
Chlo e............per cwt.	9 0 ..	0 0	9 0 ..	0 0
Iodid .... per lb.	7 9 ..	8 0	7 9 ..	8 0
Quinin				
Sulph e, British, in				
bot es .... per oz.	10 0 ..	0 0	10 0 ..	0 0
Sulp e, French .... ,,	10 0 ..	0 0	10 0 ..	0 0
Sulph e, German .. ,,	9 6 ..	9 9	8 9 ..	9 0
Sal Ace .... per lb.	0 8¾ ..	0 9	0 8¾ ..	0 9
Sal Am niac, British per cwt.	44 0 ..	45 0	44 0 ..	45 0
Saltpet :				
Beng 6 per cent.				
or ier.......... ,,	23 0 ..	23 3	22 9 ..	23 0

	Last Month		This Month	
Saltpetre:—(*cont.*)				
Bengal, over 6 per	s. d.	s. d.	s. d.	s. d.
cent.............per cwt.	22 0 to	22 9	21 9 to	22 6
British, refined.... ,,	28 6 ..	30 0	28 6 ..	30 0
Soda : Bicarbonate .. ,,	9 6 ..	9 9	9 6 ..	0 0
Hwds. ...... ,,	45 0 ..	0 0	45 0 ..	0 0
Carbonate :				
Soda Ash ......per deg.	0 1$\frac{7}{16}$ ..	0 1⅛	0 1⅜ ..	0 0
Soda Crystals .. per ton	63 9 ..	65 6	60 0 ..	0 0
Caustic	9 6 ..	10 5	9 6 ..	10 5
Hyposulphite ....per cwt.	8 0 ..	0 0	8 0 ..	0 0
Nitrate .... ,,	14 9 ..	15 0	14 9 ..	15 0
Zinc Sulphate ...... ,,	12 0 ..	14 0	12 0 ..	14 0
SUGAR OF LEAD, White ,,	37 0 ..	0 0	37 0 ..	0 0
Brown ,,	26 0 ..	0 0	26 0 ..	0 0
VERDIGRIS .... per lb.	0 8 ..	1 2	0 8 ..	1 2
VERMILION, English .. ,,	2 5 ..	0 0	2 5 ..	0 0
China .... ,,	2 4 ..	0 0	2 4 ..	0
DRUGS.				
ALOES, Hepatic ......per cwt.	70 0 ..	140 0	70 0 ..	140 0
Socotrine ...... ,,	60 0 ..	190 0	55 0 ..	160 0
Cape, good .... ,,	44 0 ..	45 6	48 0 ..	60 0
Inferior........ ,,	37 0 ..	43 6	40 0 ..	47 6
Barbadoes .... ,,	60 0 ..	180 0	45 0 ..	150 0
Curaçoa ...... ,,	0 0 ..	0 0	45 0 ..	130 0
AMBERGRIS, grey...... per oz.	40 0 ..	85 0	100 0 ..	110 0
BALSAM—				
Canada .... per lb.	0 11 ..	1 0	1 0 ..	0 0
Capivi .... ,,	1 10 ..	2 6	2 3 ..	2 6
Peru .... ,,	9 3 ..	0 0	13 0 ..	0 0
Tolu................ ,,	2 6 ..	0 0	2 6 ..	2 8
BARKS—				
Canella alba ....per cwt.	21 0 ..	25 0	21 0 ..	25 0
Cascarilla .... ,,	16 6 ..	17 6	16 6 ..	17 6
CINCHONA—				
Peru, gray.......... per lb.	0 9 ..	2 0	1 0 ..	2 0
Calisaya, flat........ ,,	1 6 ..	3 0	2 3 ..	3 6
,, quill...... ,,	2 0 ..	8 0	4 9 ..	6 9
Carthagena .... ,,	0 6 ..	3 7	0 6 ..	3 9
Columbian.......... ,,	1 0 ..	3 9	0 10 ..	5 0
Cuprea .... ,,	0 11 ..	2 0	1 3 ..	3 2
New Granada ..... ,,	1 6 ..	5 0	1 6 ..	7 0
Pitayo & Maracaibo.. ,,	0 4 ..	2 6	0 4 ..	3 3
Red .... ,,	1 9 ..	11 0	1 9 ..	10 0
East India, crown.... ,,	0 6 ..	6 6	0 6 ..	6 10
,, red ...... ,,	0 4½ ..	4 0	0 5 ..	4 6
BUCHU LEAVES......... ,,	0 3 ..	1 6	0 3 ..	1 6
CAMPHOR, China ......per cwt.	85 0 ..	87 6	85 0 ..	87 6
Japan ...... ,,	87 6 ..	90 0	87 6 ..	90 0
Refin. Eng... per lb.	1 3½ ..	0 0	1 3½ ..	0 0
Tablets .... ,,	1 4½ ..	0 0	1 4½ ..	0 0
CANTHARIDES, China .. ,,	1 6 ..	1 8	1 6 ..	1 8
,, Russian ,,	3 6 ..	3 9	3 6 ..	3 9
CHAMOMILE FLOWERS..per cwt.	15 6 ..	70 0	15 6 ..	70 0
CASTOREUM .... per lb.	17 6 ..	30 0	17 6 ..	30 0
DRAGON'S BLOOD, lp. ..per cwt.	75 0 ..	260 0	75 0 ..	260 0
ERGOT OF RYE........ per lb.	1 6 ..	2 3	1 9 ..	2 0
FRUITS AND SEEDS (*see also* Seeds *and* Spices)				
Anise, China Star....per cwt.	90 0 ..	95 0	90 0 ..	95 0
Spanish, &c. .. ,,	20 0 ..	38 0	20 0 ..	38 0
Beans, Tonquin .... per lb.	3 9 ..	6 0	3 9 ..	6 0
Cardamoms, Malabar,				
good.............. ,,	6 0 ..	8 6	6 0 ..	8 6
inferior .... ,,	3 0 ..	5 9	3 0 ..	5 9
Aleppy .... ,,	2 6 ..	6 0	2 6 ..	6 0
Madras .... ,,	2 6 ..	5 6	2 6 ..	5 6
Ceylon...... ,,	2 0 ..	4 0	2 0 ..	3 11
Malabar .... ,,	4 0 ..	7 0	4 0 ..	7 6
Cassia Fistula ......per cwt.	9 6 ..	20 0	9 0 ..	20 0
Cocculus Indicus .... ,,	10 0 ..	12 0	10 0 ..	12 0
Colocynth, apple .... per lb.	0 9 ..	1 9	0 9 ..	1 9
Croton Seeds........per cwt.	60 0 ..	65 0	60 0 ..	65 0
Cubebs .... ,,	0 0 ..	0 0	150 0 ..	170 0
Cummin .... ,,	35 0 ..	36 0	35 0 ..	36 0
Fenugreek .... ,,	9 0 ..	12 0	9 0 ..	12 0
Juniper Berries .... ,,	12 6 ..	13 0	12 6 ..	13 0
Nux Vomica .... ,,	8 0 ..	10 0	8 0 ..	10 0
Tamarinds, E. India ,,	5 6 ..	11 0	5 6 ..	11 0
West India...... ,,	9 0 ..	13 0	9 0 ..	13 0
Vanilla, large ...... per lb.	20 0 ..	29 0	20 0 ..	29 0
inferior .... ,,	10 0 ..	19 6	10 0 ..	19 6
HONEY, Chili..........per cwt.	39 0 ..	54 0	39 0 ..	54 0
Jamaica ...... ,,	40 0 ..	50 0	40 0 ..	50 0
IPECACUANHA .... per lb.	3 4 ..	4 2	3 4 ..	4 2
ISINGLASS, Brazil...... ,,	2 6 ..	4 10	2 6 ..	4 10
Tougue sort .... ,,	2 6 ..	5 6	2 6 ..	5 7
East India ...... ,,	0 8 ..	5 6	0 8 ..	5 4
West India...... ,,	2 7 ..	4 7	2 8 ..	4 7
Russ. long staple ,,	7 0 ..	10 0	7 0 ..	10 3
,, inferior .. ,,	0 0 ..	0 0	0 0 ..	0 0
,, Simovia .. ,,	2 3 ..	2 6	2 3 ..	2 6
JALAP, good .... ,,	0 10 ..	1 0	0 10 ..	1 0
infer. and stems ,,	0 7 ..	0 9½	0 7 ..	0 9½
LEMON JUICE .... per deg.	0 0 ..	0 0	0 0 ..	0 0
LIME JUICE ....per gall.	1 3 ..	1 6	1 3 ..	1 6
LIQUORICE, Spanish....per cwt.	0 0 ..	0 0	0 0 ..	0 0
Liquorice Root .... ,,	0 0 ..	0 0	0 0 ..	0 0
MANNA, flaky .... per lb.	4 6 ..	5 0	4 6 ..	5 0
MUSK, Touquin pod .. per oz.	16 0 ..	68 0	16 0 ..	68 0
Grain.......... ,,	35 0 ..	65 0	35 0 ..	65 0
Yunan pod .... ,,	32 0 ..	38 6	32 0 ..	38 6
OILS (*see also separate list*)				
Almond, expressed .. per lb.	1 5 ..	0 0	1 5 ..	0 0
Castor, 1st pale...... ,,	0 3¾ ..	0 4¼	0 3¾ ..	0 4¼
second ...... ,,	0 3¼ ..	0 3⅜	0 3¼ ..	0 3⅜
Cod-liver............per gall.	4 6 ..	5 0	4 6 ..	5 0

	Last Month			This Month		
Essential Oils:	s. d.		s. d.	s. d.		s. d.
Almond ..... per lb.	30 0	to	0 0	30 0	to	0 0
Anise-seed, star .. „	8 3	..	0 0	8 3	..	0 0
„ German „	10 6	..	0 0	10 6	..	0 0
Bergamot ..... „	8 6	..	9 0	8 6	..	9 0
Cajeput .....per bott.	3 0	..	3 4	3 0	..	3 4
Caraway ..... per lb.	3 0	..	6 6	3 0	..	6 6
Cassia ..... „	4 3	..	4 6	4 3	..	4 6
Cinnamon ..... per oz.	5 6	..	0 0	5 6	..	0 0
Cinnamon-leaf .... „	0 2½	..	0 2⅔	0 2½	..	0 2⅔
Citronelle ..... „	0 2½	..	0 0	0 2½	..	0 0
Clove ..... „	6 6	..	6 9	6 6	..	6 9
Lavender, Exotic .. per lb.	2 2	..	8 2	2 2	..	8 2
„ Mitcham „	130 0	..	0 0	130 0	..	0 0
Lemon..... „	9 0	..	10 6	9 0	..	10 6
Lemongrass ..... per oz.	0 2⅝	..	0 0	0 2⅝	..	0 0
Neroli ..... „	6 6	..	9 6	6 6	..	9 6
Nutmeg ..... „	0 4½	..	0 0	0 4½	..	0 0
Orange ..... per lb.	7 3	..	11 3	7 3	..	11 3
Otto of Roses .... per oz.	10 0	..	25 3	10 0	..	25 3
Patchouli ..... „	2 0	..	4 1	2 0	..	4 1
Peppermint:						
American ..... per lb.	12 6	..	0 0	12 6	..	0 0
(H.G. Hotchkiss).. „	13 6	..	0 0	13 6	..	0 0
English ..... „	23 0	..	0 0	23 0	..	0 0
German ..... „	13 9	..	0 0	13 9	..	0 0
Japan ..... „	8 0	..	9 0	8 0	..	9 0
Rosemary ..... „	1 6	..	2 11	1 6	..	2 11
Sassafras..... „	3 0	..	0 0	3 0	..	0 0
Spearmint ..... „	10 0	..	11 0	10 0	..	11 0
Thyme ..... „	1 9	..	4 2	1 9	..	4 2
Mace, expressed .... per oz.	0 2	..	0 3	0 2	..	0 3
Opium, Turkey..... per lb.	13 0	..	15 6	13 0	..	15 6
„ inferior ..... „	8 0	..	12 0	8 0	..	12 0
Quassia (bitter wood) per ton	80 0	..	100 0	80 0	..	100 0
Rhubarb, China, good and fine ..... per lb.	2 9	..	4 0	2 6	..	4 0
Middling to fair .. „	1 4	..	2 8	1 9	..	2 3
Ordinary..... „	0 9	..	1 3	0 9	..	1 3
Roots—Calumba ....per cwt.	20 0	..	27 0	19 6	..	26 6
China ..... „	22 0	..	24 0	22 0	..	24 0
Chiretta ..... per lb.	0 10	..	1 0	0 10	..	1 0
Cus-Cus .....per cwt.	10 0	..	12 0	10 0	..	12 0
Galangal..... „	20 0	..	22 0	21 0	..	24 0
Gentian ..... „	20 0	..	22 0	19 0	..	21 0
Orris ..... „	32 0	..	67 6	25 0	..	70 0
Pellitory..... „	42 0	..	60 0	42 0	..	60 0
Pink..... per lb.	0 0	..	0 0	0 0	..	0 0
Rhatany..... „	0 5	..	0 6	0 5	..	0 6
Seneka..... „	2 1	..	2 10	2 1	..	2 10
Snake ..... „	1 8	..	1 10	1 8	..	1 10
Saffron, Valencia .... „	45 0	..	50 0	46 0	..	52 0
Salep .....per cwt.	100 0	..	130 0	100 0	..	130 0
Sarsaparilla, Lima .. per lb.	0 5	..	0 6	0 5	..	0 6
Guayaquil ..... „	1 4	..	1 6	1 4	..	1 6
Honduras ..... „	1 7	..	1 10	1 7	..	1 10
Jamaica ..... „	1 7	..	1 9	1 7	..	1 9
Sassafras..... per cwt.	0 0	..	0 0	0 0	..	0 0
Scammony, Virgin .... per lb.	35 0	..	40 0	35 0	..	40 0
second and ordinary „	10 0	..	30 0	10 0	..	30 0
Senna, Bombay ..... „	0 1	..	0 3	0 1	..	0 3
Tinnivelly ..... „	0 1½	..	1 2	0 1½	..	1 2
Alexandria ..... „	0 1	..	1 0	0 1	..	1 0
Spermaceti, refined .. „	0 10	..	1 0	0 10	..	1 0
American ..... „	0 9	..	0 10	0 9	..	0 10
Squills ..... „	0 1	..	0 1⅔	0 1	..	0 1⅔
GUMS.	£ s.		£ s.	£ s.		£ s.
Ammoniaci, drop..... per cwt.	1 10	..	2 5	1 10	..	2 5
Animi, fine washed .... „	17 0	..	18 0	19 0	..	22 0
sorts..... „	10 0	..	15 0	10 10	..	15 10
Arabic, pale picked..... „	1 15	..	2 0	1 15	..	2 0
sorts, mid. to fine „	1 10	..	1 13	1 10	..	1 13
Turkey, pick. gd. to fin. „	5 0	..	7 0	5 0	..	7 0
second & inferior „	2 0	..	4 15	2 0	..	4 15
sorts ..... „	2 0	..	2 5	2 0	..	2 5
Assafœtida, cm. to fin. „	0 15	..	3 11	0 15	..	3 11
Benjamin, Siam, 1st & 2nd ..... „	15 0	..	30 0	15 0	..	30 0
Sumatra ..... „	5 0	..	10 10	5 0	..	10 10
	s. d.		s. d.	s. d.		s. d.
Copal, Manilla..... „	18 0	..	79 0	18 0	..	79 0
Angola, red ..... „	142 6	..	150 0	142 6	..	150 0
Dammar, pale ..... „	70 0	..	87 6	70 0	..	87 6
Euphorbium..... „	20 0	..	24 0	20 0	..	24 0
Galbanum ..... per lb.	0 3	..	0 10	0 3	..	0 10
Gamboge, picked pipe per cwt.	260 6	..	335 0	280 0	..	335 0
Guaiacum..... per lb.	0 9½	..	2 0	0 9½	..	2 0
Kino ..... per cwt.	57 0	..	105 0	57 0	..	100 0
Kowrie, sorts ..... „	50 0	..	60 0	50 0	..	60 0
selected ..... „	105 0	..	210 0	105 0	..	210 0
Mastic, picked..... per lb.	2 6	..	3 9	2 6	..	3 9
Myrrh, good and fine per cwt.	195 0	..	240 0	135 0	..	145 0
ordinary to fair.. „	70 0	..	130 0	70 0	..	130 0
Olibanum, p. drop .... „	50 0	..	52 0	50 0	..	52 0
amber & yellow „	37 0	..	50 0	37 0	..	50 0
Senegal..... „	30 0	..	40 0	30 0	..	40 0
Sandarac..... „	110 0	..	117 6	110 0	..	117 6
Shellac, Orange..... „	140 0	..	147 6	140 0	..	147 6
Liver ..... „	100 0	..	135 0	100 0	..	135 0
Thus ..... „	15 0	..	17 0	15 0	..	17 0
Tragacanth, leaf .... „	280 0	..	400 0	280 0	..	400 0
in sorts ..... „	40 0	..	270 0	40 0	..	270 0
OILS.	£ s.		£ s.	£ s.		£ s.
Seal, pale ..... per tun	28 0	..	28 10	30 0	..	0 0

	Last Month			This Month		
Oils:—(*cont.*)	£ s.		£ s.	£ s.		£ s.
Seal, yellow to tinged per tun	25 10	to	27 10	27 0	to	29 0
brown ..... „	24 0	..	26 10	25 0	..	0 0
Sperm ..... „	67 0	..	68 0	70 0	..	0 0
Cod ..... „	29 10	..	0 0	28 0	..	0 0
Whale, South Sea, pale „	28 0	..	29 0	28 0	..	29 0
yellow „	27 0	..	27 10	27 0	..	27 10
brown „	21 0	..	23 0	21 0	..	23 0
East India, Fish „	0 0	..	0 0	0 0	..	0 0
Olive, Seville ..... per ton	41 0	..	0 0	41 0	..	0 0
Gioja..... „	0 0	..	0 0	0 0	..	0 0
Levant ..... „	38 0	..	39 0	38 0	..	39 0
Mogador ..... „	37 0	..	37 10	38 10	..	0 0
Spanish ..... „	41 0	..	41 10	40 10	..	41 0
Sicily..... „	0 0	..	0 0	0 0	..	0 0
Cocoanut, Cochin .... „	33 0	..	33 10	31 0	..	31 10
Ceylon .... „	31 15	..	32 0	27 5	..	0 0
Mauritius.. „	31 10	..	32 0	27 10	..	0 0
Palm, fine	32 10	..	0 0	32 10	..	33 0
Linseed	25 0	..	25 7/6	25 2/6	..	25 7/6
Rapeseed, English, pale	31 10	..	0 0	31 5	..	0 0
brown	29 10	..	0 0	29 5	..	0 0
Cottonseed	25 10	..	0 0	25 0	..	0 0
Lard	61 0	..	63 0	61 0	..	63 0
Tallow	26 10	..	45 0	26 10	..	45 0
	s. d.		s d.	s. d.		s. d.
Turpentine, American per cwt.	41 6	..	41 9	41 9	..	0 0
Petroleum, refined .. per gall.	0 5⅞	..	0 6	0 6⅜	..	0 6½
Spirit....	0 8½	..	0 9	0 8	..	0 8½
SEEDS.						
Canary ..... per qr.	50 0	..	75 0	50 0	..	75 0
Caraway, English.... per cwt.	0 0	..	0 0	0 0	..	0 0
German, &c.	28 0	..	30 0	28 0	..	30 0
Coriander	16 0	..	24 0	16 0	..	24 0
Hemp ..... per qr.	29 0	..	30 0	29 0	..	30 0
Linseed, English..... „	0 0	..	0 0	0 0	..	0 0
Black Sea & Azof „	47 0	..	0 0	46 0	..	0 0
Calcutta ..... „	48 0	..	0 0	47 6	..	0 0
Bombay ..... „	49 0	..	0 0	48 6	..	0 0
St. Petersburg .. „	45 0	..	46 0	45 0	..	46 0
Mustard, brown .....per bshl.	0 0	..	0 0	0 0	..	0 0
white ..... „	5 0	..	10 0	5 0	..	10 0
Poppy, East India .... per qr.	44 9	..	45 0	45 6	..	46 0
SPICES.						
Cassia Lignea..... per cwt.	39 0	..	39 6	38 6	..	39 0
Vera ..... „	28 0	..	35 0	28 0	..	35 0
Buds ..... „	47 6	..	48 0	43 6	..	45 0
Cinnamon, Ceylon:						
1st quality..... per lb.	1 2	..	2 1[illegible]	1 2	..	2 10
2nd do. ..... „	1 1	..	2 2	1 1	..	2 2
3rd do. ..... „	0 10	..	1 10	0 10	..	1 10
Tellicherry..... „	0 0	..	0 0	0 0	..	0 0
Chips ..... „	0 2⅜	..	0 5½	0 2⅜	..	0 5½
Cloves, Penang ..... „	1 9	..	2 0	1 9	..	2 0
Amboyna ..... „	1 2½	..	1 6	1 2	..	1 5
Zanzibar..... „	0 9¾	..	0 10¾	0 9¾	..	0 10½
Ginger, Jam., fine .....per cwt.	95 0	..	200 0	95 0	..	200 0
Ord. to good ..... „	36 0	..	90 0	36 0	..	90 0
African ..... „	25 0	..	0 0	27 0	..	0 0
Bengal ..... „	23 0	..	24 0	23 6	..	24 0
Malabar ..... „	0 0	..	0 0	0 0	..	0 0
Cochin..... „	28 0	..	110 0	39 0	..	112 0
Pepper, Black, Malabar per lb.	0 5⅜	..	0 6½	0 5⅜	..	0 6½
Singapore ..... „	0 5½	..	0 0	0 6⅜	..	0 0
White ..... „	0 6½	..	0 0	0 7½	..	0 0
Cayenne ..... „	0 9	..	1 3	0 9	..	1 4
Mace, 1st quality .... „	1 6	..	2 4	1 5	..	2 4
2nd and inferior .. „	1 2	..	1 5	1 3	..	1 4
Nutmegs, 78 to 60 lbs. „	2 7	..	3 10	2 6	..	3 8
90 80 „ „	2 5	..	2 6	2 3	..	2 5
132 95 „ „	2 1	..	2 3	2 0	..	2 5
Pimenta.....	0 3¾	..	0 4½	0 3¾	..	0 4½
VARIOUS PRODUCTS.						
Cochineal—						
Honduras, black .... per lb.	0 0	..	0 0	0 0	..	0 0
„ silver .... „	0 0	..	0 0	0 0	..	0 0
Mexican, black ..... „	0 0	..	0 0	0 0	..	0 0
„ silver ..... „	0 0	..	0 0	0 0	..	0 0
Teneriffe, black..... „	1 5	..	2 0	1 5	..	2 0
„ silver ..... „	1 5	..	1 7	1 5	..	1 6
Galls, Tky blue..... „	55 0	..	57 6	60 0	..	0 0
„ China ..... „	77 6	..	78 6	77 6	..	78 6
Indigo, Bengal	3 6	..	7 8	3 9	..	7 9
„ Madras	1 2	..	5 9	1 2	..	6 7
„ Kurpah.....	1 0	..	6 0	1 6	..	6 0
„ Oude	2 0	..	5 10	2 6	..	6 4
„ Guatemala	3 6	..	6 6	3 6	..	6 6
Rosin, American ....per cwt.	0 0	..	0 0	6 6	..	10 6
Soap, Castile ..... „	28 0	..	0 0	28 0	..	0 0
Soy, China .....per gall.	1 10	..	0 0	1 11	..	2 0
Wax, Bees, English .. „	£0 0	..	£0 0	£0 0	..	£0 0
Jamaica.. „	5 10	..	6 10	f/7/6	..	6 10
East India „	5 10	..	6 0	5 10	..	6 0
Vegetable, Japan.. „	2 9	..	2 10	2 9	..	2 10
Wood, Dye, Bar..... per ton	3 10	..	0 0	3 10	..	3 15
Brazil ..... „	0 0	..	0 0	0 0	..	0 0
Cam ..... „	18 0	..	27 0	18 10	..	30 0
Fustic, Cuba ..... „	0 0	..	0 0	0 0	..	0 0
Jamaica ..... „	5 0	..	5 15	5 0	..	5 15
Logwood, Campeachy „	0 0	..	0 0	7 10	..	8 5
Jamaica ..... „	4 12/6	..	5 12/6	4 15	..	5 12/6
Lima, first pile ..... „	10 10	..	11 10	10 5	..	11 0
Red Sandars	7 10	..	8 0	8 0	..	0 0

REPLYING FOR THE PRESS.

THE Illinois Pharmaceutical Association met lately at Peoria, and the proceedings were wound up with a banquet. The toast of "The Press" was replied to by Mr. E. F. Baldwin, editor of the *Peoria Journal*, who seems to possess a good share of the humour for which American editors are famous. He spoke as follows:—Fellow Doctors,—Hippocrates said, long ago, that medicine was the noblest of professions, but the meanest of trades. It is a source of great satisfaction to me, as I look around this audience to-night, to think that you have divested all of the annoyance from the medical profession, and, with a spirit of self-sacrificing zeal that is simply above and beyond all praise, have taken it upon yourselves. There was when there were no drug-stores. None at all. Everything in that line was crowded into a doctor's pill-bags and found a resting-place behind his horse, or in the bottom of his ancient and venerable gig. Then when a doctor called he did not look at a patient's tongue and feel his pulse, and then scratch some kind of a cabalistic mark on paper to be taken to the nearest drug-store and found to be worth 40 cents—sometimes a dollar and a half. It did not take a student two years at a pharmaceutical college to learn that when he couldn't read what the doctor had written he should put in aqua pura, syrup simplex, and podophyllin. No, sir; this blessed system was not invented then. The doctor dove into the bottom of his pill-bag and fished out the first that came handy. Sometimes it was squill and sometimes it was jalap. If these failed he could always give a dose of calomel and a quart of castor oil to work it off. The system was simplicity itself, and when we remember what our ancestors suffered on our behalf, we no longer wonder that they had rugged constitutions, or that we have been permitted to enjoy the effect of their tonics in the shape of hereditary dyspepsia, born with our natural appetite for milk. Oh! castor oil, what crimes have been committed in thy name! No profession has made such great and rapid strides in advancement as the druggists' art. Not even the Press itself can show such progress. (By the way, have I mentioned the Press before?) Instead of the little old doctor with his pill-bags, we have the magnificent stores, with plate-glass windows, bearing on them the ancient legend "Apotheke Deutsche." Within, something more than Shakespeare's "beggarly array of empty boxes," we see a glittering assortment of bottles ranged along the shelves, with names stolen from a classical dictionary. You enter and you walk boldly up to the moustached and bejewelled clerk. If you know your business, and it is a temperance town, you wink at the practitioner and say something about malaria. It is a matter of indifference just what you do say. The single word, malaria, is the golden open sesame, and it at once initiates you into the holiest of holies behind the prescription case. Malaria is like Prince Ali's tent in the "Arabian Nights"; it can be held in the hand in the shape of a two-grain quinine pill, or it may stretch until it covers a quart bottle full of all manner of refreshments. Whenever I see a man coming out of a drug-store and wiping his mouth on the back of his hand, I realise to its full and awful extent the hold that malaria has on this unfortunate people. It used to be called "fever 'n ager." But that was too slow and small a term. It has something vulgar in it, too. But when a man has malaria, he has something that he can be proud of. Like hay fever, it is an aristocratic disease, and there is breadth and depth to it. What the drug-stores in towns where a strict licence law prevails would do without malaria is a hard problem, and one that I would not like to hear discussed, for fear of the other hearts that would ache. I have noticed, too, another fact, and that speaks volumes for the morals of the druggists as a body, and that is, that I have invariably found them to be strict temperance men. In all communities where there is *no* licence the druggists stand up, to a man, for the cause of total prohibition, and opposition to the jug trade. This tends to show that they are, in the highest and best sense of the word, the conservative and leading minds of the community. These things ought to make us rejoice. We, of the Press, feel that in the cause of drugs the newspaper has a deep and abiding interest. They fill our columns, and help us to convey to a confiding world of readers that Mrs. Winslow's soothing syrup is the only healthy diet for babies, and that no man can vote understandingly on national questions unless he wears a liver-pad. These things unite the Press and the druggists in indissoluble bonds of amity and concord. Whatever else may betide, the druggist and the editor will be found walking hand-in-hand, with the one great purpose of physicing the people, and making them pay for it afterward. Like you, we too, have our troubles. If you have to divide with the doctors, we put up our little per cent. with the politicians, only to find, in both cases, that the other fellow has the best of the game. In short, the Press is the handmaid of the druggists, and a fellow-feeling makes us wondrous kind. Let us, therefore, love each other. When a druggist sees a poor editor walking by himself on the muddy side of the street, let him not feel above him, but let him remember that once he was young and fair, and might have learned to put up drugs himself, but fate drove him into a different and humbler channel. And let the editor, too, remember the golden rule of the druggist, that sweet oil catches more flies than honey.

PHARMACY IN NEW ZEALAND.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—Last mail brought out your valuable synopsis of educational information respecting the present state of pharmacy at home and abroad. Allow me to correct one or two inaccuracies in connection with ourselves, Our Pharmacy Act of 1880, section 19, sub-section 2, stipulates that anyone applying to be registered on the ground of "having been employed as a dispensing chemist in an hospital, charitable institution, or other public institution in New Zealand, must have been so employed for not less than three years," not six months, as stated. In addition to the diploma of the Pharmaceutical Society of Great Britain being a qualification for registration, the Pharmacy Board, at its first meeting, extended the privilege to the enclosed list of public institutions:—The Pharmaceutical Society of Ireland, Les Ecoles de Pharmacie de France et de Belgique, the Colleges or Universities of Germany, Denmark, Sweden, Russia, Norway, and Austria, and the Ontario College of Pharmacy, Canada. At present about 160 chemists have registered, but it is optional for assistants to do so; by far the greatest number enrolled are in business in the Colony. It being imperative that all persons keeping open shop for the public compounding and dispensing prescriptions should be registered, there will be no trouble with defaulters. The Pharmacy Act, as it now stands, is admittedly crude and imperfect, but it comprehends the grand principle that some satisfactory guarantee of competency shall be exacted from all undertaking the important duties of dispensing medicine. The chief imperfection of the Act is that it does not incorporate with it our Sales of Poisons Act. This can soon be rectified, but the chemists have thought it preferable not to worry the Legislature too early with amendments.

Practically the working of the Act will fall into the hands of the registered chemists and druggists, as the present nominated Pharmacy Board will in two years give place to one chosen by and from the registered chemists; hence the necessity for them to organise means for establishing Examining Boards and means for pharmaceutical training. We have no one large centre of population; hence has arisen difficulties scarcely appreciable by outsiders. I send you a copy of the 1880 Pharmacy Act, also the Dental Act of 1880, and its amendment in 1881. This latter confers an important privilege on chemists who neglected to register as dentists before last June, for any one who has practised dentistry, combined with pharmacy, for five consecutive years prior to the passing of the Act can register by making statutory declarations in the form of the Pharmacy Act. I remain, yours most respectfully,

JOHN A. ALLAN, Secretary.

Wellington, New Zealand, December 3, 1881.

[We are much obliged to Mr. Allan for this timely information.—ED. C. & D.]

234/10. **To Convert Cider into Vinegar.**—This can probably be done by the plan used in French households to convert wine into vinegar. A small vertical cask with a tap is partly filled with good vinegar; it is then filled up with wine, and placed in the chimney corner, care being taken that there are openings at the top to give free access to the air. The best temperature for the fermentation is 75° to 85° Fahr., which should be maintained as evenly as possible. After a week or a fortnight, or even longer, as must be determined in each case, half the contents may be drawn off as good vinegar, and the cask may be refilled with wine. Occasional failures will take place from causes imperfectly known. Good fermented vinegar must, of course, be used in the first place. There is a valuable book on "Vinegar Manufacture" by H. Dussauce, 1871.

HOMŒOPATHY.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—I am much amused by your correspondent's skit on "Patent Medicines," but I am astonished that you should allow his remarks about homœopathy without some correction. You must know perfectly well what a ridiculous ignorance he displays therein of what homœopathy really is and professes to be. If he ever has "read a great deal upon the subject" it has been to very little purpose. Anyone who understands the subject could explain it to him in five minutes, if he be not (as I suspect he is) wilfully blind. His conception of homœopathy is utterly silly, and it is worse than ridiculous to find a man pretending to satirise such silly nonsense in the presence of every opportunity of enlightenment.

I am, yours truly,

Scarborough, January 24. F. FOSTER.

[We did not think our correspondent's "scribble" needed to be taken very seriously. His idea of preparing "Dolorine: an essence of grief," from human tears was comic—no more. As a matter of fact, since Pasteur's latest researches it has become unscientific to jeer at infinitesimal doses, and even infinitesimal doses are not an essential of homœopathy.—ED. C. & D.]

15/140. *B. D.*—You seem to know more about the formula for Mona bouquet than we do. Why not experiment a little further until you get a satisfactory product? **Pearl-coated Pills.**—It is obvious that the dispenser on a small scale cannot hope to equal the perfection attained by manufactuers, who have every advantage of suitable machinery and constant experience.

THE FUTURE OF CHEMISTS.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—Chemists are at the present time passing through a most serious crisis. Grocers, drapers, tailors, and general dealers have succeeded to a great extent in depriving them of the patent medicine trade, and the "stores" are eating like a canker-worm into the moiety that is at present left to them, whilst the greed of medical men in not being content with their fees for advice, but grasping also the profit on the medicine, deprives them of the remaining and legitimate source of income. It is on this last subject I should like, with your permission, to offer a few remarks.

It seems to me that (beyond the retailing of a few poisons) the dispensing part of a chemist's business is the only part he can hope to keep out of the hands of the general dealer. It behoves the trade, therefore, to endeavour to get that portion monopolised to it by Act of Parliament. Chemists and druggists, so far as I know, are the only body of men who have to pass an examination without obtaining a monopoly thereby; and I maintain that it is only just and right that when that examination is passed and they have proved their competency to dispense medicines, that they should have those medicines to dispense. Now it is perfectly certain that medical men who now make up their own medicines will not voluntarily relinquish that practice, therefore the chemists must, as one body, be up and doing, and fight for their legitimate rights. In my opinion an overwhelming mass of evidence could be collected to show the immense importance to the public that the prescription should pass through other hands than the doctor's before the medicine ultimately finds its way to the patient.

I make these few remarks hoping to call forth an expression of opinion from the trade on this subject, which I am sure, Mr. Editor, you will agree with me is a most important one.

Yours, &c.,

Manchester, January 31. FORTI NIHIL DIFFICILE.

P.S.—It would be interesting to know what reasons the French and German Legislatures had placed before them when they decided that the medical practitioners in their respective countries should not dispense medicines.

THE EXAMINATIONS—SUGGESTIVE.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—I suppose something will come of all this talk about curriculums and examinations, at any rate it is with that hope I write down a few ideas of my own on the subject.

Of all those who spoke at the meetings of the Chemists' Assistants' Association, I think Messrs. Wyatt and Branson get the nearest to the truth. One strongly advocates the lengthening of the examination, the other shows how to do it. But in my opinion Mr. Branson puts the cart before the horse.

Although the Board of Examiners only require three years to have been passed in a pharmacy, yet I think that by far the majority of apprenticeships are for a term of four years. Taking the four years as a standard, let me say how I think the life of the young pharmacist should be regulated.

1. The Preliminary should precede apprenticeship. This should be compulsory. On this point I do not think there can be any great difference of opinion, and in enforcing it I think we should be conferring a great benefit upon the future pharmacist, who, in these days, will need all his attention to be devoted to acquiring his business during his apprenticeship. Moreover, it would materially assist in keeping our ranks free of a class of fellows who, being without any qualification, or the brains to get one, retard our advancement as a body, and by being willing, nay, obliged, to accept a low salary, prevent a good assistant from receiving the remuneration which his education and attainments entitle him to.

2. After passing three years in acquiring the pharmaceutical portion of his training, let him be eligible to go up for a pharmaceutical examination, comprising dispensing, prescription reading, recognition of drugs, and an acquaintance with their active principles, the composition of pharmacopœia preparations, and posology. I think these are things which we might fairly expect a man to learn in a pharmacy, though whether three years are sufficient depends upon his capabilities and the business he is in.

During these three years our embryo pill builder, if he is not a fool, will have picked up at least the rudiments of chemistry and botany. These and physics he can now read up during his last year; and now comes the time for a compulsory curriculum, when he will be thoroughly lectured at, and have opportunities of studying the aforementioned three subjects for not more than nine months. And I think these nine months should comprise the spring, summer, and autumn; for, as the majority of students would have to leave their homes to attend the curriculum, it would be better for them to have every advantage in the way of light and fine weather, &c., for reasons that will strike any practical person.

And also I think those months most suited for study. It comprises the lifetime of most plants, and gives the maximum of sunlight; and only those who have attempted laboratory work by gas fully know the value of sunlight. Nor will our student have to suffer a little martyrdom from cold by getting up to study early in the morning.

Now, having gone through his scientific curriculum, let him be eligible for a scientific examination on chemistry, including the estimation of drugs, botany, and physics; and, having passed that, give him his licence to sell poisons.

And, if he be aspiring, let him still have the Major, as now, to reward his diligence and soothe his ambition.

From my own experience in the examination-room I am convinced of two things—First, that a student has too many subjects to study at once, and is thus driven to cram; and, secondly, that the examiners have not sufficient time at their disposal to examine a properly-educated man—or, rather, to discriminate between an educated and a crammed man.

Apologising for troubling you with my ideas upon the subject, I am, sir, yours truly,

Manchester. G. H. S.

MODERN PRESCRIPTIONS.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—The following is the sort of prescription we meet with nowadays:—"A. & H.'s Perfected cod-liver oil, ½ pint. (Here are directions.) Can be obtained at any chemist's, *or at the Co-operative Stores.*" (The italics are mine.) It is lithographed, so that the well-known M.D. from whose hands it comes no doubt distributes it pretty freely amongst his patients.

As the papers say, comment is unnecessary.

Yours faithfully,

February 3. A SUBURBAN CHEMIST.

Elluna.—Spon's "Cyclopædia" is published by E. & F. Spon, 16 Charing Cross.

11/138. *Haddenham.*—The "Corassa Compound" circular is written in the most approved style of *Schwindel Literatur*. There are no such herbs as are named known to botanists.

34/133. *Welshman.*—We cannot assist you further than we did by our answer in December. The ingredients you name will not make an emulsion if you use for *aqua mellis* a spirituous solution of essential oils. But there is no official formula for *aqua mellis*, and if you must have an emulsion you can use an aqueous solution of honey scented, and then you can easily make a creamy emulsion, nearly permanent.

THE PHARMACEUTICAL CURRICULUM.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

"Excelsior" has passed the Minor examination, has gone into business, and hopes sooner or later to offer himself for the Major examination. He writes, urging that "Minor associates in business," like himself, "shall be permitted to pass the Major without the need of a compulsory curriculum, if they wish." No one has ever suggested a compulsory curriculum for Major candidates. Nor do we think it is contemplated even in the most learned circles. It is hardly necessary, therefore, for us to invite, as "Excelsior" wishes, "the united efforts of all those situated like himself to induce the Council to grant this privilege."

29/232. *A.L.* asks for a form for a concentrated black ink (not a powder), and whether any firm make such, and also how to make a glossy jet-black ink.

We know of no firm that sends out a concentrated black ink, unless in the powder form. We should imagine that the production of such an ink would present no greater difficulty than that of making a concentrated infusion, say of one to seven. For some good forms THE CHEMIST AND DRUGGIST for 1880, page 439, may be consulted. To produce the glossy jet black the addition of a little sugar or gum, with a little archil, logwood, or other vegetable colouring substance, may be tried.

234. *N.Y.Z.*—**Ink for Graphs.**—Dissolve aniline crystals of any desir colour in a little methylated spirit, and add it to a solution of gum arabi or of glycerine. *Violet de Paris* is a favourite colour. Ordinary ink may used if a solution of aniline be added to intensify it. Judson's violet ye is used as a cheap graph ink, but it will not print more than 40 co s.

233. *A. A.*—**Coating Pills with Gelatine.**—We cannot improve on th rocess recommended by Dr. Symes in THE CHEMIST AND DRUGGIST, Janu , 1878, page 13. For **Flavouring Tobacco** we have heard of vanill or tonquin beans being kept in the pouch.

234. *Elad.*—For cleaning prints see our June number, 1881, page 273.

4/14. *Vigil* sends us a piece of paper on which an order written in black had n written, but which, being used to wipe a knife on which was some oney, a violet colour appeared.

The aper had been written over with one of Eagle's or Perry's copying pencil The colour develops on the paper being moistened owing to the presence of an aniline dye in the lead.

39/2. *H. F.* asks for a form for the preparation of "Anodyne Colloi"

We ve two forms that appeared in the *American Journal of Pharmacy* for a lyne colloids, but we may point out that there is no reason why these ay not be improved upon by an intelligent manipulator :—

ACONITE COLLOID.

Powdered aconite root	2 oz.
Ether	6 fl. oz.
Soluble cotton	64 gr.
Stronger alcohol	q.s.

BELLADONNA COLLOID.

The me, substituting powdered belladonna root for aconite.

Mix e ether with 2 fl. oz. of alcohol, moisten the aconite with 1 fl. oz. of this ack in a percolator, and percolate with the balance, pouring on sufficie alcohol to recover 8 fl. oz., in which dissolve the cotton.

68/2. *Gadus* writes :—In your next issue kindly oblige with a ready test to istinguish **Ol. Morrhuæ** from any other *liver* oils. B.P. test not sufficie.

The is no known test to distinguish the oil obtained from the liver of the *Gadus morrhua* from other liver oils. The B.P. test applies to all liver oils ale. In selecting oils it is expedient to trust a *little* to taste, a little to sme a little to colour, a little to density, and a *good deal* to the house from w ch it is obtained.

THE SALE OF CARBOLIC ACID.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—Messrs. Calvert & Co., in their letter in last month's journal, say :—"We reasonably assume that the sales of carbolic acid are very greatly in exce of those of landanum." From my personal experience, I beg to questio the accuracy of their assumption. During the past 12 months my sales of udanum have been greatly in excess of those of carbolic acid. I have s at least 2,000 lots of laudanum in that period, from single pennyw ths to half-gallons, while my sales of Calvert's carbolic acid have been re icted to abont a dozen bottles.

Yours, &c.,

Febru 7. COUNTRY CHEMIST.

THE PATENT MEDICINE STAMP.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—hanks for your kindness in publishing my letter in your journal, also for our Note on the above subject in your last number.

If yo will kindly insert this letter, perhaps others will thank you as much as do. Respecting the labels I sent you, I cannot, even now, make out how they are liable to stamp-duty. There is no recommendation for the re, &c., of any particular complaint on any one of them neither have the articles been advertised in handbills or newspapers. If the first label y noticed, viz., "Saunders' Genuine Marshmallow Ointment," is within e purview of the Act, how is it that the following are exempted :—Math s plasters, Young's corn and bunion plasters, Bell's pills, Bostock's powder, and a thousand-and-one other articles where a "right" is claimed ?

If a l bearing the words, "The Universal Healing Ointment," is liable to duty why are the "Universal Dental Syringe" and the "Universal Corn an Wart Pencil" allowed to be sold stampless ?

The f is, sir, the stamp is an abominable nuisance, and, although there are num ers of druggists who can, without compunction, every day evade the dut on really liable articles, yet a conscientious man finds himself continu y perplexed and bothered by this ambiguous question.

It wo ld, therefore, be a benevolent work of the Pharmaceutical Society or some ther body to take up this matter, and remove this galling burden from our shoulders. As matters stand at present, we are not sure how soon we may be dropped upon and fined for selling articles which are morally exempt from stamp duty, but which the wonderful comprehensive ss of our Excise system can manage to make literally liable.

There s a deal of talk about including patent medicines in the Poison Schedul If it really comes to this, we ought in all fairness to have some compensating equivalent, and I think that nothing would be better adapted to this end than the abolition *in toto* of the patent medicine stamp The drug business is now in a worse state than ever it was. It is, in fact, quite losing its distinctive character, and is being divided between the Jewish slop tailor and the English grocer; surely, then, before we are quite extinguished, let us make some effort to hold up a bit longer, and instead of foolishly adding to our burdens by introducing a compulsory curriculum, or increasing the stringency of the poison regulations, let us lighten the ship by throwing out all unnecessary cargo, beginning with the antiquated stamp duty. Yours truly,

West Gorton, February 6. F. SAUNDERS.

5/236. *W. P.*—You will find all we can tell you about Himrod's] asthma cure on page 17 of our last number.

WHAT ARE PATENT MEDICINES ?

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—No published explanation of the name "patent medicine" seems to be satisfactory. The term "patent" is now applied almost exclusively to the monopoly of an invention for seven or 14 years granted by Government to individual inventors on the condition that such a full and complete declaration of the invention shall be published that persons versed in the particular trade shall be able to use it when the monopoly expires. The conditions regarding fees are insignificant; the important point now is that the invention must be fully published. "Open," the root meaning of "patent," is generally supposed to refer to this publication.

But we hear of patents of nobility and patent medicines. Either the word is used here in a different sense, or in patent inventions it does not apply to the publication.

The history of patents seems to point to the latter alternative. Dr. James's fever powder was one of the earliest patented inventions, and it is well known that it cannot be prepared by the specification published. The publication of the invention was not insisted on; the payment of fees to Government was the important condition in applying for a monopoly. Yet the monopoly, or the monopolised article, was called a patent, and no historical break can be found in the meaning of the word. The abuses arising from the Sovereign's power to grant monopolies at pleasure led to many restrictions, the important ones now in force being novelty of invention, definitely limited duration, and complete publication. But the word patent was applied to monopolies before these conditions were enforced.

Every modern patentee receives from Her Majesty, by the hand of the Commissioner of Patents, a letter sealed with the Royal seal, addressed to each and every of Her Majesty's loyal subjects, and declaring that certain rules having been complied with, Her Majesty has been pleased to grant the patentee a monopoly for a limited time of the particular thing described in a certain place. This letter is called a "letter" or "letters patent."

The patent of nobility is substantially the same. In a letter addressed to all her loyal subjects the Sovereign declares that a certain rank has been conferred on a subject.

In the seventeenth century patentees of medicines possessed monopolies which they paid for by a lump sum. Doubtless they received an open "letter" or "letters patent" confirming their rights.

The "patent medicines" of to-day are, I am convinced, the same as the older ones in principle. The method of payment has been modified into what, when applied to other things, we significantly call "a royalty." The "letters patent," originally a single parchment, is transformed into a multitude of official labels. The single payment secured a single document. Payments and documents have been alike divided; but the patent-medicine stamp is essentially a "letter patent" to the multitude declaring that the article it covers is monopolised.

The peculiar privilege of royalty has curiously vanished from our conceptions of patent medicines. The Sovereign now cannot grant and does not profit by the monopolies. The revenue from them belongs to the nation; and the particular jealousy with which monopolies are regarded is shown by the narrow limits within which the Inland Revenue Department must confine its gleanings.

Special property or the claim of a secret would include a vast host of foods, cosmetics, beverages, and household conveniences, which might fairly be taxed. Special recommendation for particular uses would include feeding-bottles and washing-machines, dog-soap and tricycles. In such things free-trademust rule; medicine makers must be the only monopolists.

Patent medicines, then, are medicines of which the proprietor has a monopoly, granted by Government, paid for by an *ad valorem* tax or royalty, the monopoly being made patent to the public by the presence of a Government stamp or seal. Yours truly,

SCRUTATOR.

235/57. *H. S. K. (Hull).*—**Cream of Tartar Baking Powder.**

	Parts
Pure cream of tartar	22
Bicarbonate soda	10
Tartaric acid	1
Wheat flour	8

Let the ingredients be quite pure and mixed gradually. All baking powders should be kept in close boxes, free from dampness.

Coating pills with gelatine, *see* elsewhere in this column.

THE DRUGGISTS' MUSEUM.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—So many new [names for old drugs spriag up I cannot help but send you my stock, copied from a handful of scrap-papers, carefully put by as if they had been *5l.* notes. The other day I was favoured with a newspaper corner for "a penorth of tinctor of rhuabarb in powder;" the enstomer bad a bottle, and, of course, I gave her the tinctnre. On another picce of paper, "penorth magnasium, penorth jallop, penorth Torky rhuabarb;" another, "penortb bitter allas:" anotber, "oil of haniseeds laudmen, and oil of pepermint, of each one penorth gum gambug, bitter sallers, rhuberb, and putofeleu of each three peaorth, mixt seperat" (he meant them to be sent separately); "box of caps ills, ½ lb. soft sope, and three penorth of crosive suplement for a hosses fut." "Please I wants a sattling powder," "cian peper," "botel bop biters," "box 101 pills," "box blue ungshun," "citrum ointment," "sink ointaient," "vartigris ointment for prood flesh," "crabs-eyes," "cockel shell eye ointment," "lcetrified naptha," "eui bare," "sals prunella," "balsam of life," "slippery sallum," "creme of tartor." "floor brimstone," "oxtail acet," "oxallic aeet," "unny botel campooging stuf;" a family reeipe:—"Oil of trotters. oil of rigaum, oil of hezel, oil of catnut, oil of hartsorn, mixt tegether, two penorth of each, for a spraned leg;" "penorth of bordax for the rush in a child's mouth," "sulphate of ink," "spirit of zink for soar eyes," "red percipit," "white precipit for sore heds," "haporth o' musk," "salaminick," "fornitor paste," "aqua fortis, for southerin," "oppodildoe," "eelycampaae," "oil of roddum for rats," "heleyboar." "For a pine in the back:—Balsem capevi, spirets of niter, ol of Jupiter, two peaorth each," "glasierine," "Glizerine," "calamusby for chawing," "genshen, dandylion, hopps, and camomile flours, thre penorth of each, for harb beer," "assents of lemons, tinctor of steal, zarsperilla, three peaorth," "iodide of potasshes for goot," "cubabes," "castick." A recipe from an old man for Eoo's fruit salt, which he assured me was the original. It was:—"Epsom salts, creme of tartor, tartaric acit, citrit of magneshia, of each one penorth, he said he would supply the shuggar bimself," "2 penerth Abenkecon wine."

I am, yours truly,

Newcastle-on-Tyne, January. JAMES JOHNSON.

COTTONSEED OIL.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—In reading your paper for May 14, 1881, I observe notice called to the fact that American cottonseed oil is largely imported into Italy for mixing with olive oil! Well, I have often passed through Marseilles and have seen large quantities of unpressed cottonseed being landed there from America, undoubtedly to be pressed for oil, and as a large quantity of olive oil is made along the Mediterranean shore of France, east of Marseilles, no douht it is used for the purpose you name, as the fresher the oil the more suitable for mixing. But bow about England? Very large quantities of "undecorticated" cottonseed cake is made in England, and I would like to know what becomes of the oil? Whoever heard of cottonseed oil nader its own legitimate name! I fear no one.

Your obedient servant,

G. A. H. (234/1.)

232/57. **Tinct. Quiniæ Co.**—*Exon* writes: In reference to Query 229/15, ℞ Tinct. quiniæ co. ʒj. M. ʒij., I should read and dispease as follows:—One teaspoonful of the tincture for a dose (send two ounces). Send "Tinct. quiniæ, P.B." I don't think the ammoniated tincture is intended. I always dispense tinct. quiniæ, P.B., when compound tincture of quinine is ordered, and the ammoniated tincture when tinct. quiniæ amm. is ordered, and I think this will be found done in the majority of cases.

["Exon" is evidently quite correct. A simple tincture of quinine (a solution of quinine in stronger alcohol) was known and in general use previous to the introduction of the compound tincture. This last preparation was first made officinal in the P.L. of 1851. It was introduced nnder the same name and with the same formula in the B.P. of 1864. In the new edition of the B.P., 1867, the same preparation, with a slight modification in the process, again appears, but this time under the name (tinctura quiniæ) tincture of quinia. The formula for the ammoniated tincture was first published in 1853, but it was not made officinal until 1874, when the reprint of the B.P. appeared with additions.]

J. P. would be glad of a formula for an inseparable lime juice and glycerine without wax or spermaceti; those he has hitherto tried have proved very unsatisfactory. [As we cannot tell what formula "J. P." has tried, it would be rather random shooting to venture on any suggestion.]

236/31. *Strychnia* has omitted his name and address. Hager states that Battle's vermin-killer contains nux vomica. In England it is generally believed that the 3*d.* packet contains 1½ grain of strychnine.

237/43. *W. D* (*Londonderry*).—Green olive oil, generally, is less carefully prepared than the yellow. Other things being equal the yellow is the better lubricant, but this property varies so much with different samples of the same kind of oil, that we can give no definite information about it. Olive oil is not well adapted for lubricating metal, as it quickly turns rancid. It keeps rather better if mixed with a proportion of mineral oil. The mineral oils are replacing all others as lubricants, one great advantage being that they neither turn rancid nor clog.

237/53. *J. C.* (*Belfast*) wishes to know what Hudson's extract of soap is perfumed with.

145/25. *Wax.*—**Coaguline** is said to be simply gelatine dissolved, by the aid of heat, in sufficient strong acetic acid to make a strong jelly.—The Chemists and Druggists' Diary, 1879. There are formulæ for several other cements in that Diary.

237/30. *H.* (*New Pillon*).—No formula for **Dandelion Cocoa** has reached us. A sample of dandelion coffee, investigated last year under the Sale of Food and Drugs Act contained 70 parts of chicory and 30 parts of extract of taraxacum. Dandelion cocoa might easily be made by substituting cocoa for chicory in this formula. As dandelion cocoa is supposed to be more digestible than the ordinary kind, cocoa from which the cocoa butter has been expressed should be the only kind used in making it.

337/6. *King John* wants a formula and mode of preparation for miscible chloredyne.

236/32. *C. R. S.*—No processes for removing the taste of castor and cod-liver oil have yet been published.

Show Colours.—Cobalt Purple is a splendid permaneat colour, though the first cost is heavy. We re-publish its formula from THE CHEMIST AND DRUGGIST, April, 1878, page 184:—Dissolve in water enough nitrate or chloride of cobalt to give the desired depth of tint. Add in excess solution of ammonium carbonate to dissolve the precipitate at first formed. Add gradually solution of ammonio sulphate of copper till you obtain the requisite tint. Great care must be used in filtering show colours. They cannot be too bright and clear. If paper or any other vegetable medium is used the slight traces of organic matter dissolved in the filtrate may cause mothery deposits. Powdered glass, glass wool, or, perhaps, asbestos cloth, carefully washed with dilute sulphuric acid and water, are the best media. Ammonio sulphate of copper is made by adding to a solution of sulphate of copper enough ammonia to dissolve the cupric hydrate at first precipitated.

Crimson Show Colour.—The most permanent is thus made:—Iodine and potassium iodide, of each 2 drachms; triturate with a drachm of water, and add 3 gallons of water and 4 oz. of hydrochloric acid.

Nothing will prevent silver tarnishing in an acid atmosphere.

R. W. H. wishes to know what would be the cost of protecting the title of a preparation he intends to bring out as the word "Maltine" or "Vaseline" is protected, and whether he would have to register it as a trade mark, or simply enter it at Stationers' Hall. This question in different forms continually reaches us. It indicates a misapprehension. You cannot now register any mere *word* as a trade mark, except in cases when the word was used before the Trade Marks Act came into operation. You can only register a *design* as a trade-mark. That design you can print on your label, and you could proceed against any one under that Act who should imitate it. Registering a trade-mark, if there be no opposition, costs 2*l.*, and something extra for advertising it, say about 3*l.* in all. At Stationers' Hall you can register the copyright of any printed matter for a few shillings, but that alone would not ensure a property in a title. The fact is, you cannot claim an exclusive right to any particular title unless you can prove that you have made a property in it. If you can prove that the law will protect you against infringers, quite apart from any registration. Mr. Eno, for example, made a certain compound and called it "Fruit Salt." That combination of words has become a valuable property, and the law has given Mr. Eno protection against the assumption of the same or a similar combination of words by an imitator, quite irrespective of any registration.

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A NEWLY apprenticed young man,
"'Tis such a nice trade" young man,
A do all the dirty work,
Nothing that's filthy shirk,
Slave without pay young man.

STUDENT.

A read for exam. young man,
A coffee and towel young man,
A Pharmacy, Botany—
Wretched monotony—
Bloomsbury Square young man.

ASSISTANT.

A rung up in the night young man,
A prescribe for your cough young man,
A pestle and mortarly,
Draw my screw quarterly,
Affable, nice young man.

PRINCIPAL.

A commence for yourself young man,
A compete with the "stores" young man,
A "thanks" for each stray penny,
Farthing or ha'penny,
Work till you die young man.—W.

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From **The Times**, *April 9th*, 1881.

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Sulphate Magnesium	1750·3	641·38	1563·50
,, Sodium	1340·7	715·35	1579·57
Ammonia (free)	0·3	.....	trace
Sulphate Potassium	3·5	25·18	7·16
,, Calcium	185·6	171·30	.....
Chloride of Sodium	301·3	997·22	105·31
Bicarbonate ,,	140·3	.....	51·52
Carbonate Calcium	1·9	21·02	60·51
,, Magnesium	12·0		
,, Iron	3·5	.....	0·29
Alumina	5·6		
Nitrates (*minute trace*)	.....	.....	.....
Silica	1·6	4·40	0·80
Bromide Magnesium	.....	2·75	.....
Chloride ,,	.....	501·14	.....
Carbonate Strontium	.....	.....	2·0
Total	3746·6	3079·74	3370·66

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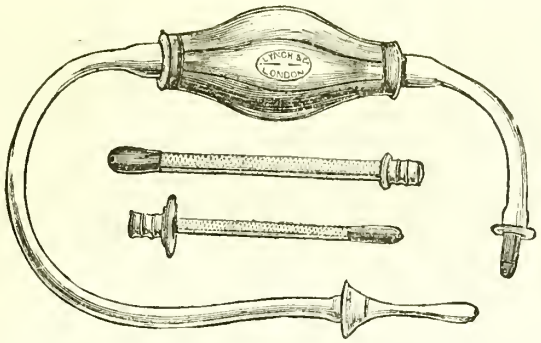

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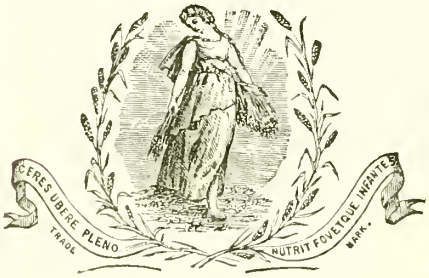

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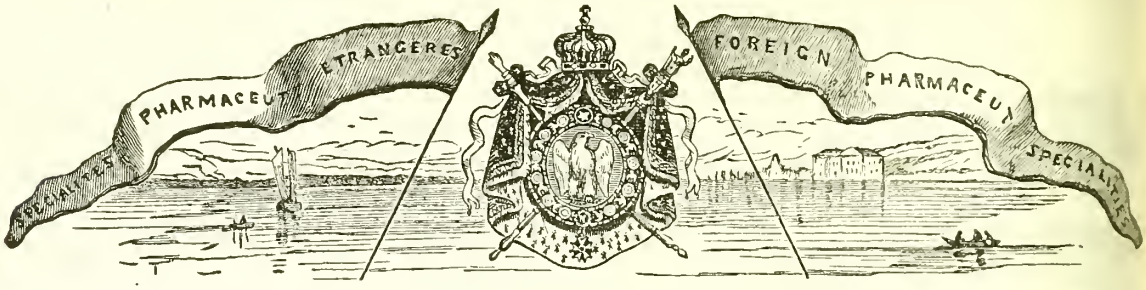

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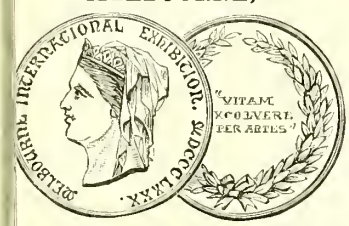

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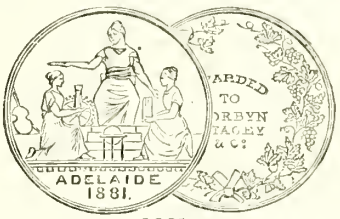

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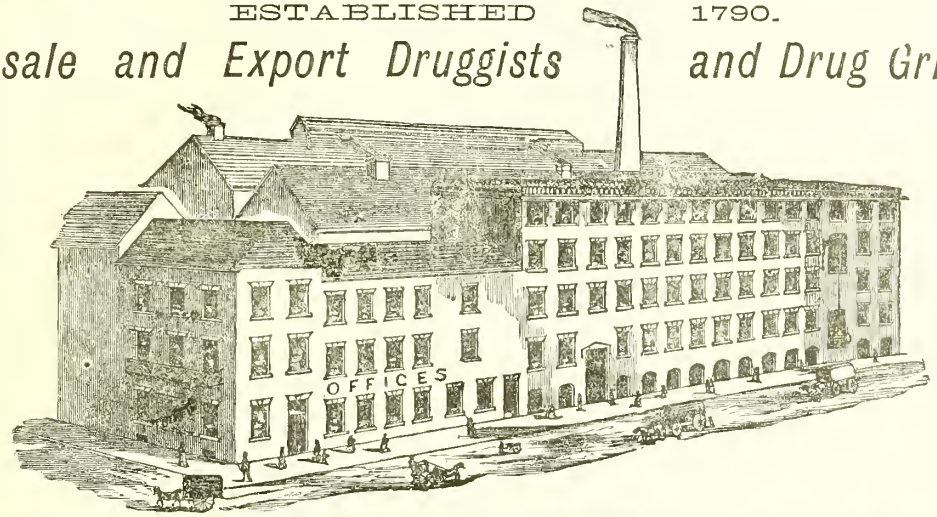

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Dr. J. Dreteh Dowse, 14 Welbeck Street, Cavendish Square, writes:—"I found the Liquid Ext. Chekan very useful in Chronic Inflammation of the Bronchial Tubes in conjunction with Iodide of Potassium, and the inhalation of the Oil in a few cases of Bronchitic Asthma where I tried it was certainly beneficial. This Drug is worthy of a more extensive trial than it has hitherto received.

In the *Practitioner* of May, 1880, Dr. Wm. Murrell, of the Royal Hospital for Diseases of the Chest, and of Westminster Hospital, cites 15 cases in which CHEKAN had been used in cases of Chronic Bronchitis, with marked beneficial results. He says "they were all bad cases, most of them of many years duration. Many of them had been attending at the Hospital for some considerable time, and almost without exception they had in former years undergone much medical treatment with comparatively little benefit."

Extr. Chekan Liquid, containing in each fluid ounce the medicinal properties of one ounce of the drug. Dose: from 1 to 3 fluid drachms three or four times a day.

Ol. Chekan Essent. To be used for Inhalation in cases of Diphtheria, Laryngitis, &c., in the ordinary way.

Syr. Chekan is half the strength of the Liquid Extract, and is specially recommended for children. Dose, according to age, from 30 to 60 minims.

EXTRACT OF MALT AND ALL ITS COMBINATIONS.

A Pure Extract of Malt, free from Glucose or added sugar, containing, in an unchanged condition, all the natural digestive principles of Malted Grain. In Bottles, 12*s.* and 22*s.* per dozen.

CHINOQUININE.

A demand for this Preparation has sprung up so rapidly that we have now made arrangements for its manufacture upon a larger scale than heretofore. From reports received from both hospital and private practitioners we find it to be recognised as a really valuable and efficient substitute for Quinine, and indeed in many cases where the officinal alkaloid proved objectionable (on account of unpleasant after-effects), *Chinoquinine* has been administered with beneficial results. The dose is the same as Quinine.

FERRI ET CHINOQUINIÆ CITRAS.

A "scale" Preparation, corresponding in appearance, dose, and medicinal properties to Ferri et Quiniæ Citras, P.B., but containing the advantages provided by Chinoquinine, of which it contains 25 per cent. in the form of Citrate.

LIQUOR FERRI ET CHINOQUINIÆ CITRAS.

Is a very pleasant and palatable Preparation of the above in a liquid form, prepared for convenience in Dispensing. Each fluid drachm contains one grain of Citrate of Iron and Chinoquinine.

SPECIAL PREPARATIONS OF COD LIVER OIL,

Manufactured from the finest Norwegian Oil specially imported by us.

OLEUM MORRHUÆ ET CALC. HYPOPHOS.

We were the earliest makers of this Preparation, which is a flavoured emulsion in which the taste of the oil is entirely disguised. Each tablespoonful contains two teaspoonfuls of Cod Liver Oil and two grains of Hypophosphite of Lime. It is flavoured either with Almond, Cinnamon, or Wintergreen.

EMULSIO MORRHUÆ PHOSPH.

A flavoured emulsion as above, and containing in each tablespoonful 1-60th of a grain of Phosphorus, and ⅓ of its volume of Cod Liver Oil. The taste of the Phosphorus and Oil are both entirely disguised.

OLEUM MORRHUÆ PHOSPH.

Each tablespoonful contains 1-32nd of a grain of unoxidised Phosphorus.

OLEUM MORRHUÆ PHOSPH. c. QUINIA ET STRYCHNIA.

Each fluid drachm contains ¼ grain Quinine, 1-64th of a grain of Strychnia, 1-100th of a grain of Phosphorus.

EXT. FILICIS LIQ. (WYLEYS').

A much more active preparation than the officinal extract. It is carefully prepared from *Native* Rhizomes, and consists *solely* of the Oil abstracted by absolute Ether, which is evaporated at a very low temperature. Dose: 30 to 60 minims. See BRITISH MEDICAL JOURNAL, April 3rd, 1875.

COATED PILLS.

We are now making on a large scale, and shall be pleased to forward List containing Recipes for every description of these.

MESSRS. W. & CO. will be happy to forward their Prices Current, Book of Order Forms, and Pill List on receipt of business card.

SPANISH PRICE LISTS PUBLISHED QUARTERLY.

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Dr. J. COLLIS BROWNE'S

CHLORODYNE.

THE ORIGINAL AND ONLY GENUINE.

IMPORTANT CAUTIONS

From Lord Chancellor SELBORNE, Vice-Chancellor Sir W. PAGE WOOD, and the LORDS JUSTICES OF APPEAL.

VICE-CHANCELLOR SIR W. PAGE WOOD, by whom the suit in Chancery was first heard, stated in his judgment that 'Dr. J. Collis Browne was undoubtedly the Inventor of Chlorodyne, that the whole story of the Defendant Freeman was as deliberately untrue as the falsehood he had deposed to with reference to the use of his Chlorodyne in the Hospital.'

The VICE-CHANCELLOR also stated, 'that Chlorodyne was a fanciful name, and had application been made sooner, the Court would have given Dr. Browne protection.'

LORD CHANCELLOR SELBORNE coincided with the judgment of the Vice-Chancellor upon this point, and stated 'that had application been made at a proper time and place, the Court would have found means to restrain the Defendant from misrepresenting the decision of the Vice-Chancellor.'

LORD JUSTICE JAMES, on appeal, stated in his judgment, 'that the Defendant Freeman had made a deliberate misrepresentation of the decision of Vice-Chancellor Wood.'

It was proved in Court, on affidavit by Mrs. Forbes, of Paris, that the testimonial published in the *Times*, November 14th 1865, speaking of the great efficacy of Chlorodyne in Cholera, referred to Dr. J. Collis Browne's Chlorodyne, and that she never used any other, that she had written to the Defendant Freeman to that effect; notwithstanding which notice the Defendant publishes the said testimonial as referring to his medicine.

The Editor of the *Medical Times*, in his report on Chlorodyne, January 13th, 1866, gives information that the Chlorodyne referred to was the medicine introduced by a retired Army Medical Officer, which was Dr. J. Collis Browne; still this is published by the Defendant as testimony to his medicine

Numerous affidavits from eminent Physicians and others were produced in Court, stating that Dr. J. Collis Browne was the inventor of Chlorodyne, and that when prescribing they mean no other.

The Defendant himself publishes that his compound is in effect and composition quite different to any other preparation nevertheless he assumes the name, testimonials, &c., of Chlorodyne.

Technicalities in law prevent that protection which the public should justly have against such a course of conduct. It is now incumbent on all who purchase Chlorodyne to see that the name, 'Dr. J. Collis Browne's Chlorodyne,' is engraved on the Government Stamp, as it is not sold otherwise. All other compounds under the name of Chlorodyne are spurious. All attempts at analysis have failed; hence the statement that the constituents of Chlorodyne are known is a misrepresentation.

From Symes & Co., Pharmaceutical Chemists, Medical Hall, Simla,
January 5, 1880.

To J. T. Davenport, Esq., 33 Great Russell Street, Bloomsbury, London.

Dear Sir,—Have the goodness to furnish us with your best quotations for Dr. J. Collis Browne's Chlorodyne, as, being large buyers, we would much prefer doing business with you direct than through the wholesale houses. We embrace this opportunity of congratulating you upon the wide-spread reputation this justly-esteemed medicine has earned for itself, not only in Hindostan, but all over the East. As a remedy of general utility, we much question whether a better is imported into the country, and we shall be glad to hear of its finding a place in every Anglo-Indian home. The other brands, we are happy to say, are now relegated to the native bazaars, and, judging from their sale, we fancy their sojourn there will be but evanescent. We could multiply instances *ad infinitum* of the extraordinary efficacy of Dr. Collis Browne's Chlorodyne in Diarrhœa and Dysentery, Spasms, Cramps, Neuralgia, the Vomiting of Pregnancy, and as a general sedative, that have occurred under our personal observation during many years. In Choleraic Diarrhœa, and even in the more terrible forms of Cholera itself, we have witnessed its surprisingly controlling power. We have never used any other form of this medicine than Collis Browne's, from a firm conviction that it is decidedly the best, and also from a sense of duty we owe to the profession and the public, as we are of opinion that the substitution of any other than Collis Browne's is a deliberate breach of faith on the part of the chemist to prescriber and patient alike.

We are, Sir, faithfully yours,
SYMES & Co.,
Members of the Pharm. Society of Great Britain,
His Excellency the Viceroy's Chemists.

Sold in Bottles—1s. 1½d., 2s. 9d., 4s. 6d., and 11s. Usual Discount to the Profession.

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J. T. DAVENPORT, Pharmaceutist,

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Manufacturing Pharmaceutical Chemists,

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"EXTRA PALE" COD LIVER OIL,

MAKERS OF

PIRITUS ÆTHERIS NITROSI, B.P.,

Guaranteed of the official strength.

SPIRITUS AMMONIÆ AROMATICUS,

Distilled from Volcanic Ammonia.

TASTELESS COATED PILLS.

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FLUID
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ade from carefully selected Bark of Cinchona Succirubra as grown in the Government Plantations of British India, and made by a process ensuring complete exhaustion of same.

At the recent **Medical International Congress** held in London the Indian Bark was declared to be the bark of the future.

Umney's Fluid Extract of Cinchona Bark is as much superior to the British Pharmacopœia Liquid Extract as the Indian Bark is to the South American.

See opinions of the Medical and Pharmaceutical Press upon **Umney's Fluid Extract Bark**. Also refer to the various journals for the opinion of practical men upon the subject.

We be pleased to note that **Umney's Fluid Bark** is now largely used both in private and hospital practice, on account of its

ELEGANCE—UNIFORMITY—
MEDICINAL VALUE—MODERATE COST.

(One fluid ounce contains all the active principle of one ounce of bark.)

Price 10s 6d. per lb.

To be obtained of all Wholesale Druggists, Patent Medicine Vendors, and Sundriesmen in the United Kingdom. In ordering specify "**Umney's Fluid Extract of Bark.**"

MANUFACTURERS:

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Wholesale Druggists, Manufacturing Chemists, Distillers and Importers of Essential Oils, Drug Grinders, &c.

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NON-IRRITANT IODINE FOR INTERNAL USE

GARDNER'S UNALTERABLE

SYRUP OF HYDRIODIC ACID

[*Syrupus acidi Hydriodici (Gardner).*]

In this preparation the *Hydriodic Acid is perfectly protected against decomposition.*

The solution possesses all the therapeutic powers of Iodine without its irritating properties.

In chemical composition it consists of one equivalent each of Iodine and Hydrogen (HI). As the equivalent of Iodine is 127, and that of Hydrogen 1, it follows that the proportion of Hydrogen present as compared to Iodine is less than 1 per cent. (78·100 of 1 per cent.). The acid is therefore *nearly pure Iodine.*

The combination renders Iodine more assimilable, and medicinally more *active.*

The Syrup has been remarkably useful in *Asthma, Chronic Bronchitis, and Hay Fever* (see papers by J. P. Oliver, M.D., Boston, *Medical and Surgical Journal*, March 4th, 1880, and by W. Gill Wylie, M.D., New York, *Medical Record*, May 10th, 1879). While it has been found specially useful in these diseases, *it is applicable to all that large class of affections in which the use of Iodine is indicated*, as in chronic and subacute catarrhal affections, Goitre, Adipose Tumours, Syphilis, &c., also in Chronic Malarial Poisoning.

Its effect upon mucous surfaces is more marked than that of other forms of Iodine, while it is effective in smaller relative proportions.

It is as palatable as Lemon Syrup.

It is so free from irritant action that it may be given to the youngest infants.

Its efficacy in Syphilis has been demonstrated.

One ounce of this Syrup contains forty minims of dilute Hydriodic Acid, representing 6·66 grains of Iodine, which correspond to 8·69 grains of Iodide of Potassium—it is, however, more active than Iodide of Potassium, and should be given in smaller relative doses

The *Dose* of this Syrup is from one to three teaspoonfuls in twice the bulk of water three or four times a day.

Prepared by **ROBERT W. GARDNER**, Pharmaceutical Chemist, 170 William Street, New York.

Sold in 1 *lb. Bottles at* 5/3, *less usual discount.*

Sole Wholesale Agents—**W. H. SCHIEFFELIN & CO.** New York

AGENTS FOR GREAT BRITAIN :—

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NOTE.—Physicians desiring to prescribe this preparation will please specify "Gardner's."

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Pharmaceutical Chemists,

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BRAZILIAN DRUGS,

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Now largely replacing the Mitcham Oil. **21/-** lb.

LAC BISMUTHI

LAC BISMUTHI ET CERII.

HYDROBROMIC SYRUP OF HYPOPHOSPHITES, &c.

London Depôt—7 SNOW HILL.

LIQUOR BISMUTHI SCHACHT

Dose, 3j., diluted.

Great pains are taken to ensure the absolute purity of this preparation. It is not only freed from the ordinary contaminations of the metal, such as copper, arsenic, silver, &c., but that which so frequently causes an offensive odour to pervade the persons of those taking the ordinary preparations of Bismuth, namely Tellurium, is also most carefully eliminated.

SYRUPUS CINCHONÆ ALCOHOLICUS, SCHACHT.

Bark minus the woody fibre Dose, 10 to 30 drops, diluted.

LIQUOR RHAMNI FRANGULÆ, GILES.

A real aperient, mild and constant. Dose, 3ij. to 3iv., diluted.

SYRUPUS SENNÆ AROMATICUS, GILES.

Made by cold maceration—does not gripe. Dose, 3j. to 3ij.

EXTRACTUM CINCHONÆ LIQUIDUM, GILES.

Exhausted entirely with cold water, and prepared by a process specially devised to avoid the changes inseparable from prolonged evaporation.

Dose, 10 to 20 drops, diluted.

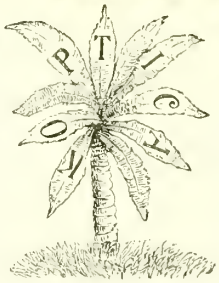
The above Preparations are manufactured by Mr. Schacht himself in the laboratory of the firm.

GILES, SCHACHT & CO.,

52 Royal York Crescent, Clifton;

And can be procured from all Wholesale Druggists in London and the Provinces.

KOPTICA.



A PERMANENT cure for Neuralgia, Rheumatism, Rheumatic Gout, Lumbago, Sciatica, Faceache, and all pains in the Limbs.

This NEW HERBAL EXTRACT (of Persian origin) is now acknowledged to be a most important discovery in Medicine, for not only has its efficacy been proved in relieving in a short time severe and long-standing NEURALGIC and RHEUMATIC pains, but also in PERMANENTLY removing the same, and completely ridding the system of the disease, a result hitherto unknown in such maladies. "Koptica" has thus proved itself in hundreds of cases, and appended are copies of some of the latest testimonials received, sufficient to further establish these facts. This NEW extract has many other advantages deserving of attention, and one in particular, which should be considered by the sufferer, is, that it is warranted FREE from Colchicum, Belladonna, Henbane, Aconite, and all other injurious drugs and ing edients, and can therefore be taken by the most delicate with the greatest confidence that it is thoroughly harmless. Too much cannot be said in favour of its wonderful specific qualities, which have as perfect control over severe and chron c cases of long duration as over those of recent date. Severe attacks of facial Neuralgia have been permanently cured within twenty four hours, and the most inveterate cases of Rheumatic Gout invariably give way to a very sh rt treatment.

"Koptica" is almost tasteless and easy to take, causes no derangement of the digestive or other organs, and no alteration in diet necessary. In cases of low nervous depression and other minor maladies it has also proved most successful.

COPIES OF TESTIMONIALS.

Please note Names and Addresses.

Cambridge Park House, Twickenham, *December 15th*, 1881.

Messrs. SQUIRE, FOX & Co.—Gentlemen,—I have much pleasure to inform you that I have taken two bottles of "Koptica," and it has perfectly cured me of Chronic Rheumatism. I have occasionally been so bad that I could hardly lift my arm.—Yours truly, C. HERITAGE.

2 Eagle Place, Piccadilly, *December 15th*, 1881.

GENTLEMEN,—After suffering many months of most dreadful pain from Acute Rheumatism, I was persuaded to try your "Koptica," which has given me the greatest relief. I am now quite recovered, and have recommended it to the use of my friends.—Yours very truly, (MRS.) E. TUCKER.

3 Buckingham Street, St. James's Park, S.W., *June 19th*, 1881.

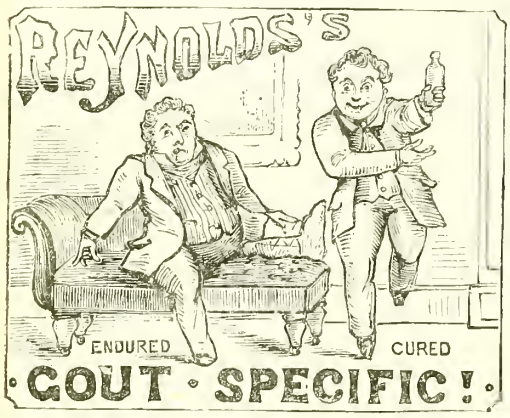
SIRS,—I can certify, after suffering twelve months from Rheumatic Gout, that I am gradually getting much better from taking your "Koptica." The swelling has gone down greatly, and I feel my hands nearly well. I shall continue to take it, and thoroughly recommend it to all my friends. I remain, Sirs,

To Messrs. Squire, Fox & Co., Yours respectfully,
Bloomsbury Mansion, London. (Mrs.) M. A. COURT.

Mrs. JOSEPH SIMMONS, of Lancaster House, Clifton Gardens, W., writes, under date of October 5th, 1881, that her Neuralgia is very much better, and that she has recommended "Koptica" to many of her friends.

*** *We are constantly receiving letters from all parts of the Kingdom bearing testimony to the very great benefits derived from* KOPTICA.

Chemists, &c., should procure it at once, as it is now extensively advertised.
Sold in very neat small pink packets at 2s. 3d. and 4s. 6d.
½ doz., ¼ doz., and dozens packed in outers.
Terms and prices from SQUIRE, FOX & Co., Bloomsbury Mansion, London.



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PRICE, RETAIL, 2s. 9d. and 4s. 6d. PER BOTTLE.

Wholesale—Barclay's, Newbery's, Maws', Edwards', Lynch's, Sutton's, and Sanger's, and all the principal Patent Medicine Vendors.

SOLE PROPRIETOR,
PERCY LITCHFIELD, 39 London Road, TWICKENHAM.

BY HER MAJESTY'S ROYAL LETTERS PATENT,

DR. HANKS'S

(TRADE MARK.)

Which is no Quack Imposture, but a genuine, truly useful, *bonâ-fide* medicine, and the quickest and most effectual cure for Neuralgia, Tic-Douloureux, Rheumatic-Neuralgia, Spasmodic Neuralgia, Hysterical Neuralgia, Earache, Brow Ague, Faceache, Toothache, Sciatica, Nervous Disorders, Nervousness, Nervous Headache, Nervous Cough, Nervous Irritability, Nervous Trembling, Nervous Debility, and Nerve Pains, after having been used with great success for sixteen years in his private practice, is now before the public. It has speedily relieved these diseases when specifics (?) vaunted as cures have been unsuccessful, and several teeth have been previously extracted, and that without the least benefit. This valuable Mixture relieves pain and spasms, strengthens and calms the nervous system, restores sleep, and quiets the brain when disturbed by anxiety, worry, and overwork. To raise the spirits, to give life and cheerfulness, to steady the muscles and limbs, in persons weak, depressed, and trembling from excessive drinking, it surpasses all other medicines. Being a Stomachic, no medicine excels it as a remedy for Indigestion, and its attending evils.

As a medicine for exportation DR. HANKS'S NEURALGIA and NERVE MIXTURE claims the attention of Merchants, Shippers, Captains, and Passengers, above all other compounds. Naval and Military Officers, Residents in the Colonies, and Emigrants, far away from doctors, will often find it a source of relief. This celebrated Mixture is pleasant in taste, and its smell is agreeable; its action local and internal; and as it will keep any length of time without decomposing, all sufferers should have it ready for use to arrest these severe diseases at their onset.

Price 1s. 9d., 2s. 3d., and 3s. 6d. per Bottle. **Sold by Dr. H. HANKS, 146 Mile End Road, London, England.**

Wholesale Agents—Newbery & Sons; Millard & Sons; Sanger & Sons; Edwards & Son; J. Thompson; Sutton & Co. Barclay & Sons; Lynch & Co.; Hovenden & Sons; and the principal Wholesale Chemists in the Colonies.
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WATSON'S COMPOUND CASTOR OIL PILLS.

ESTABLISHED OVER 40 YEARS.

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The Proprietor of these old-established Pills begs to remind Chemists and Patent Medicine Vendors that they incur no liability in selling them; being a *bonâ-fide* Proprietary Medicine, properly stamped, they are exempt from legal interference under the "Sale of Food and Drugs Act." Moreover, they contain Castor Oil, they are labelled "Compound," and their compound nature is expressly stated on the circular round each box. They may, therefore, be confidently recommended when Castor Oil Pills are asked for.

Price 1/1½ and 2/9 per Box. Prepared only by S. WAND, Chemist, Leicester (as heretofore by James Watson).

Wholesale Agents.—*London*: Barclay & Sons, W. Edwards & Son, F. Newbery & Sons, W. Sutton & Co., J. Sanger & Sons, Sa[illegible]aw, Son & Co., Hovenden & Sons, J. C. Thompson, Millard & Sons, Butler & Crispe, Burgoyne, Burbidge & Co., Grimwade, Ri[illegible]y & Co. *Liverpool*: Evans, Sons & Co. *Edinburgh*: Raimes & Co., Duncan, Flockhart & Co., Sang & Barker, Clark & Fi[illegible]erton. *Glasgow*: Glasgow Apothecaries' Company, Brown Brothers & Co., Hatrick & Co. *Leeds*: Goodall, Backhouse & Co. *Yo*: Clarke, Bleasdale & Co., Raimes & Co. *Thirsk*: W. Foggitt. *Manchester*: J. Wooley & Sons. *Derby*: R. Daniel. *Dumfries*: Ca[illegible]nthers & Allen. *Cork*: W. E. & H. M. Goulding, Harrington & Son. *Queensland* (Australia): Elliot Bros. & Co., Brisbane. *Limerick*: J. [illegible] Evans & Co. *Belfast*: J. & J. Haslett. *Dublin*: Joze & Burns, C. Mannin. *South Africa*: B. G. Lennon & Co., Port Elizabeth.

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The Great BLOOD PURIFIER and RESTORER.

(Registered Trade Mark—"BLOOD MIXTURE.")

The Celebrated CURE FOR Scrofula, Scurvy, Blood and Skin Diseases, and Sores of all kinds.

Wholesale of all the Wholesale Houses, at 24*s.* and 108*s.* per dozen, less the usual discount.

Sole Proprietors, THE LINCOLN & MIDLAND COUNTIES' DRUG COMPANY (Late F. J. CLARKE), LINCOLN.

Hunter Bills and Posters, with Name and Address, also Show Cards, on application. Printed matter supplied in any Language for Foreign Agents.

CAUTION.—Mr. Clarke will take immediate proceedings against all persons pirating his Trade Mark, "Blood Mixture," Labels, Wrappers, &c., or Advertisements, or in any way infringing his rights.

A CERTAIN CURE FOR DEAFNESS.

By this valuable "Specific" hundreds have been cured of this distressing malady. For Cold in the Head with Noises in the Ear, it is most efficacious. The highest testimonials are enclosed, with directions for use with each bottle.

OSBORNE'S GOLDEN DROPS

REGISTERED TRADE MARK

OSBORNE'S GOLDEN DROPS FOR DEAFNESS.

The highest Testimonials are enclosed, with directions for use with each bottle.

Extract from "*Brief*."—"GOLDEN DROPS FOR DEAFNESS.—E. M. Osborne has produced a valuable specific for this distressing complaint. We have tested its efficacy, and can, with confidence, recommend it to the public as an excellent remedy. It is perfectly harmless, and the directions for use are plain and simple. It is secured by a registered trade mark, '*Human Ear*,' by which the genuine article may be recognised."

TESTIMONIALS.

'Edgbaston, May 4, 1877.—Sir,—My niece, who came to stay at my house, was suffering from Deafness and difficulty of breathing, owing to weakness of the tonsils caused by Quinsy. She tried your wonderful 'Specific,' and after applying it a little more than a week her hearing and breathing were quite restored. I am glad to communicate this as the medium of personal thanks and for the good of others,—Yours truly, C. L."

'Clapham, Sept. 5, 1877.—Sir,—Be so good as to send me six bottles of your 'Cure for Deafness,' and you will oblige. I am much better. Shall I go on with it? Be so good as to let me know. It has done me more good than physicians to whom I have paid twenty guineas; they cannot do me any good.—Yours, &c., J. P."

'Crystal Palace Road, East Dulwich, June 10, 1878.—Sir,—During the last few weeks my little girl has been quite deaf, and suffering considerable pain in her left ear. I was recommended to use your 'Golden Drops for Deafness,' and I am delighted to say that, after applying them three times, they brought away two large secretions of foul matter. The child can now hear distinctly the faintest sounds, and is free from pain. I send you this testimonial unasked, in the hope that its publication may increase the sale of your truly valuable 'Golden Drops.'—Yours respectfully, I. H. S. N.B.—If you will send me some testimonial sheets I will distribute them amongst my friends."

Sold by all Wholesale and Retail Chemists, price 1*s.* 1½*d.*, 2*s.*, 2*s.* 9*d.*, and 5*s.* 6*d.*; or free by post for 1½*d.* extra from

E. M. OSBORNE, 26 THAVIES INN, HOLBORN CIRCUS, LONDON.

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TRADE L. B. MARK.

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(BRANCH OFFICE OF LARS BREKKE, AALESUND, NORWAY),

Recommend SUPERIOR NON-FREEZING

COD LIVER OIL,

In 25 and 12 gallon Tin Casks, at the very lowest prices, free on rail Hull, or c.i.f. any principal Port of United Kingdom.

WHOLESALE ONLY.

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NEW (1881) SEASON'S FINEST QUALITY

NORWEGIAN COD LIVER OIL

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T. J. SMITH, 10 & 11 NORTH CHURCH SIDE, HULL, Importer.

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WILLIAM GRAHAM CARR & SONS,

PHARMACEUTICAL CHEMISTS,

IMPORTERS AND WHOLESALE DEALERS IN COD LIVER OIL,

BERWICK-ON-TWEED.

ESTABLISHED 1794.

TOWLE'S CHLORODYNE

The Original Preparation, as approved by the Medical Profession on account of its known composition and uniform strength.

Retail at 13½d., 2s. 9d., and 4s. 6d. Dispensing, 4 ozs., 4s. 6d., and 10 ozs. 11s., stamped.

LIQ. CHLORODYNII,

As originally introduced by A. P. Towle, and free from stamp duty for dispensing.

4 ozs., 4s.; ½ lb., 5s. 6d.; 1 lb., 10s.

TOWLE'S CHLORODYNE LOZENGES AND JUJUBES,

In 1, 2, and 4 lb. Bottles, at 3s. per lb., and 6d. and 1s. Boxes. Foiled, Lined and neatly got up for the counter, 4s. 6d. and 9s. per doz.

A. P. TOWLE, Chlorodyne Manufacturer,

75 BACK PICCADILLY, MANCHESTER.

Bills with name on application with instructions for forwarding.

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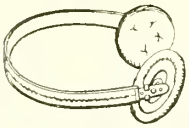

FIG. 1. Patent Single.

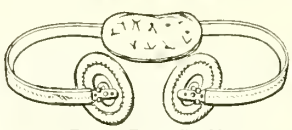

FIG. 2. Patent Double.

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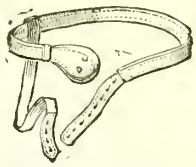

FIG. 3. Common Single.

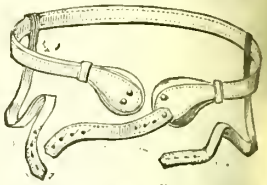

FIG. 4. Common Double.

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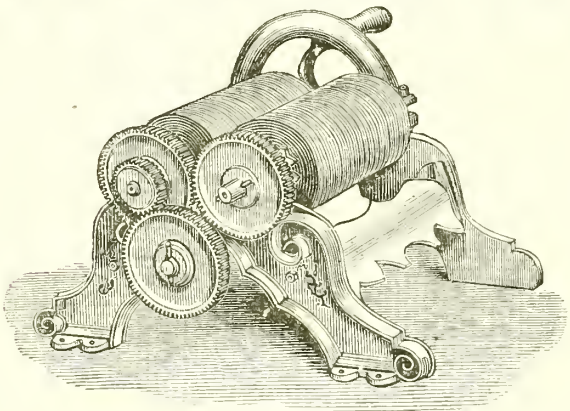

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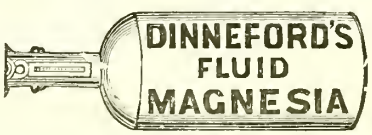

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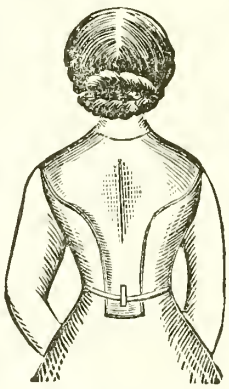
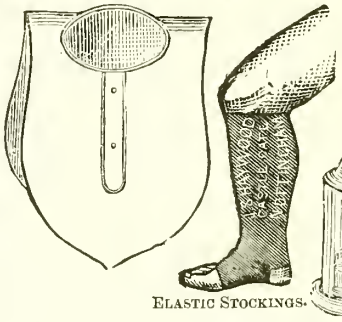


Back View.



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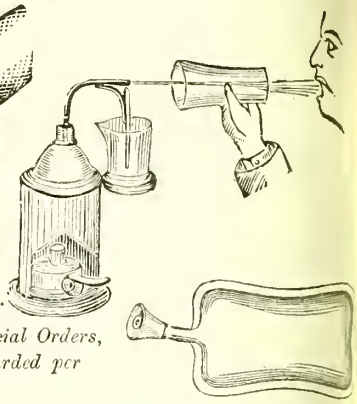

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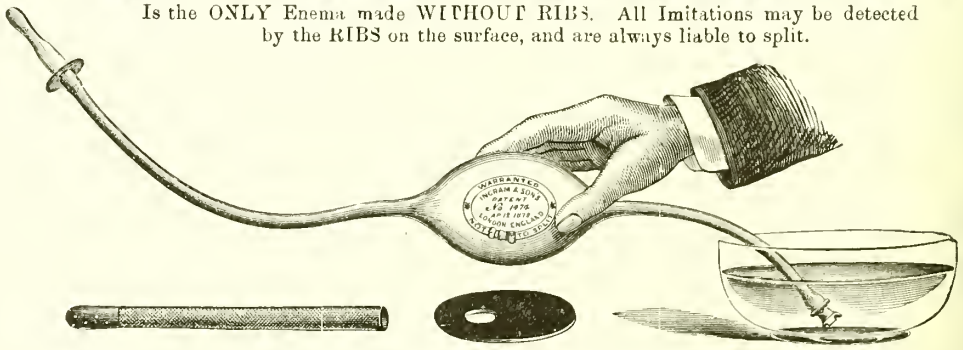

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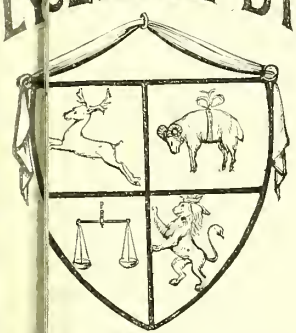

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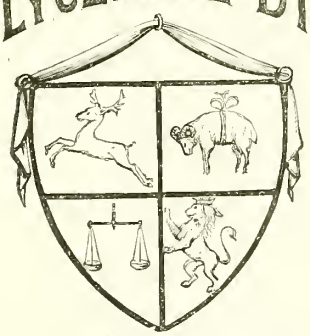

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SOLE PROPRIETORS AND MANUFACTURERS,

TOMLINSON & HAYWARD, Lincoln, England.

TESTIMONIAL from NICHOLAS LOWE, Esq., ALTAMIRA, Mercedes, Buenos Ayres, October 22, 1880.

To Messrs. Moore & Tudor.—In reply to your letter of the 18th, I am thankful for your congratulations on the sale of my wool at 135 per ar. I have sold another lot at $140, and I attribute the success of placing wool worth these prices in market having cured the flocks of Scab. There are several remedies more or less efficacious and cheap. I use only the "Glycerine Dip" imported by you, and I am well satisfied with the result it gives. I have no objection to your making the fact public. My neighbour, Mr. William Cleary, also uses the "Glycerine Dip," and he obtained a Silver Medal Prize, at the Paris Exhibition of 1878. Several others who use the same Dip are satisfied with it, and promise to continue patronising the "Glycerine Dip."

Applications for Agencies invited in those countries where we are not already represented.

CONDY v. MITCHELL.

(MITCHELL is the person now Trading as THE CONDY'S FLUID COMPANY.)

The Defendant having published certain advertisements in which judgment unfavourable to the Plaintiff in the above suit have been paraded, the following Extract from the Judgment of **Vice-Chancellor BACON** in respect to an issue arising out of the litigation is given as **a contrast.** Application was made to **COMMIT MITCHELL FOR CONTEMPT OF COURT.** According to the report of Mr. W. H. Counsell, shorthand writer, 24 Chancery Lane,

THE VICE-CHANCELLOR SAID:—

"With respect to MITCHELL, there is not a shadow of excuse for what he has done; on the contrary, as might be expected, there has been a submission and an apology by him, accompanied by a protestation that 'he did not think he was doing anything wrong.' Therefore, in my opinion, so far as MITCHELL is concerned, it is an undefended case, only made worse by the sort of lame excuse which is offered, together with the apology which I dare say is sincere enough, because a man, when he has done wrong, is always ready to give an excuse for what he has done when he is convicted."

SPRATTS PATENT
MEAT "FIBRINE" DOG CAKES & POULTRY MEAL
DOG MEDICINES AND DOG SOAP.

TO CHEMISTS AND DRUGGISTS.

The above Goods have an enormous Sale. For Terms, address—

"SPRATTS PATENT," Bermondsey, S.E., or order through your Wholesale House

Wholesale Agents for the Soap and Dog Medicines:—Barclay & Sons; Sanger & Sons; Sutton & Co.; F. Newbery & Sons; Lynch & Co., London; Raimes & Co., Edinburgh, York, and Liverpool; Ravensdale Mill Co., Dublin; Woolley, Sons & Co., Manchester; Taylor, Gibson & Co., Newcastle-on-Tyne; Goodall, Backhouse & Co., Leeds; and of all Wholesale Houses.

PRITCHARD & LLOYD'S
POULTRY CONDIMENT
PER 6D PACKET.
FOR PROMOTING LAYING.
PREPARING FOR EXHIBITION &
IMPROVING GENERAL CONDITION.

(LATE PRITCHARD & PEARSON'S).

THE MERITS OF THIS ARTICLE RAPIDLY CREATES A LARGE DEMAND WHEREVER INTRODUCED.

In neat Sixpenny Packets, measuring 4 in. by 2¼ in. by 1 in. (thus occupying very little space), and made up in Boxes containing 3 dozen each.

Chemists may have a supply of respectable Circulars (not hand-bills), with own Name and Address printed in, embracing full description, and copies of many properly authenticated testimonials.

Wholesale of Messrs. Barclay & Sons, 95 Farringdon Street, London; Messrs. Evans, Lescher & Webb, 60 Bartholomew Close, London; Messrs. Evans, Sons & Co., 56 Hanover Street, Liverpool. Sole Proprietors,

PRITCHARD & LLOYD, 31 KING STREET, DUDLEY.

NOTICE.

In consequence of the great reduction in all Patent Medicines, the Proprietor has determined to reduce the Wholesale Prices of following Articles, viz.

		Per doz.	Retail.
TAYLOR'S	Condition Balls.....	24/-	3/-
Ditto	ditto	12/6	1/9
TAYLOR'S	Condition Powders	18/-	2/6
TAYLOR'S	Cough Powders.....	18/-	2/6
TAYLOR'S	Cleansing Drinks	5/-	(No retail price)
TAYLOR'S	Foot Rot Mixture.....	7/-	1/-
Ditto	ditto	14/-	2/-
Ditto	ditto	28/-	3/6

Subject to the usual Discount.

Prepared by THOMAS TAYLOR, M.R.C.V.S., Derby.

MITCHELL v. CONDY.

he Partnership Accounts of the late Firm of Bollmann Condy & Co.)

HIGH COURT OF JUSTICE, CHANCERY DIVISION, 16th Dec., 1881.

Vice-Chancellor Sir James Bacon made an order upon

BOLLMAN CONDY (Defendant), **TO PAY** into Court

HE SUM OF £3,602. 4s. 6d. being the amount his indebtedness to the late Partnership.

N.B.—The "Contempt of Court" alluded to in a certain distorted statement, at present being advertised under the heading "Condy v. Mitchell," was publication by the Plaintiff (Mitchell), in the year 1873, of Accounts of the fendant relating to the above suit (Mitchell v. Condy), which was then mencing, and had no connection with Condy v. Mitchell, under which ding it is made to appear.

THE CONDY'S FLUID CO. (Estab. 1874),
REPRESENTING THE PLAINTIFF.

HLORIDE OF LIME.

WATERPROOF, AIR-TIGHT, & ODOURLESS PACKAGES. *Protected by Royal Letters Patent.*

at and clean, and convenient for use. Being air-tight and odourless, retains its strength unimpaired.

IS ADMIRABLY ADAPTED FOR EXPORT, AND WILL KEEP FOR YEARS IN ANY CLIMATE.

				Per Box.
BOXES	containing	24 1-lb.	Packages	6/6
Ditto	ditto	48 ½-lb.	ditto	7/0
Ditto	ditto	96 ¼-lb.	ditto	8/0
Ditto	ditto	1-lb., ½-lb., & ¼-lb.,	assorted	7/3
Ditto	ditto	1 Gross Penny	Packages	8/0
				Per Case.
CASES	containing	50 1-lb.	Packages	13/0
Ditto	ditto	10 5-lb.	ditto	13/0
Ditto	ditto	100 ½-lb.	ditto	14/0
Ditto	ditto	200 ¼-lb.	ditto	16/0
Ditto	ditto	1-lb., ½-lb. & ¼-lb.,	assorted	14/6

1 cwt. and ½-cwt. Cases, to meet the requirements of large buyers and the Export Trade.

Packed also in Jars, Bottles, Casks, and Cases to order.
Patented Composition for Export Orders is specially prepared to bear any Climate.

Liberal Discount allowed on all Orders of 5 Cases or 10 Boxes and upwards.
QUOTATIONS FOR CONTRACT OR LARGE ORDERS.

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London: S. Maw, Son & Thompson; Barclay & Sons; J. Neilery & Sons; W. Edwards & Sons. Sanger & Son; Lynch & Co.; Harvey, Ward & Co.; Evans, Lescher & Webb; Payne, Burbidges & Co.; Dury, Yates & Partridge; Hayden & Sons; Wright, Layman & Umney; Hewan, Squire & Francis; Hodgkinson, Stead & Preacher. Liverpool: Evans, Sons & Co. Manchester: James Woolley, Sons & Co. Birmingham: Southall Bros. & Barclay. Glasgow: Raimes & Co. Edinburgh: Raimes, Dunn & Co.

SAMPLE BOX OR CASE CAN BE HAD FROM ANY OF OUR WHOLESALE AGENTS OR ANY LONDON OR COUNTRY WHOLESALE DRUGGISTS. ALL GOODS DELIVERED FREE IN LONDON.

NATIONAL CHEMICAL CO., 55 PITFIELD STREET, LONDON, N.

HORSE, CATTLE, AND SHEEP MEDICINES.

BY ROYAL APPOINTMENT.

TO HER MAJESTY THE QUEEN.

By Special Warrant, Dated 27th December, 1865.

DAY, SON & HEWITT,

INVENTORS AND SOLE PROPRIETORS OF THE

TO H.R.H. THE PRINCE OF WALES

By Special Warrant, Dated 10th February, 1880.

"ORIGINAL" STOCK BREEDERS' MEDICINE CHESTS,

For all Disorders in Horses, Cattle, Calves, Sheep, and Lambs.

Patronised for over 40 years by Royalty, and the principal Stock Breeders, Horse Proprietors, and Agriculturists of the British Empire.

The No. 2 MEDICINE CHEST contains the following matchless remedies:—

"CHEMICAL EXTRACT," for all External Injuries, and Ewes Lambing.
"GASEOUS FLUID," for Colic, Scour, or Diarrhœa, and Debility.
"RED DRENCH," for Cleansing Cows and Ewes, and for Inflammation.
"RED PASTE BALLS," for Mares after Foaling, and Conditioning Horses.
"BRONCHOLINE," for Husk or Hoose in Sheep, Lambs, and Calves.
"GASEODYNE," for Heaving and Paining, "CARMINATIVE CHALK," &c.

Price of Chest, with Guide to Farriery, £2 16s. 6d. No. 1 Complete Medicine Chest, in Polished Case, £6 6s. Horsekeeper's Chest, No. 4, £2 17s. 6d.

CARRIAGE PAID TO ALL PARTS OF THE BRITISH ISLES.

Admirably adapted for all ordinary ailments among Stock, and each preparation can be had separately. Full and easy directions enclosed.

Awarded "Certificate of Merit" by the National Agricultural Society of Victoria, Australia, 1871; President's Medal, Spalding, 1872; Silver Medal, Manchester and Salford Show, 1874; Silver Medal, Preston, 1875; Silver Medal, Northamptonshire Agricultural Society, Stamford, 1875; Silver Medal, Cheshire Agricultural Society, Crewe, 1875; Special Prize, National Agricultural Society of Victoria, Australia, 1875; Medal, Cheshire Agricultural Society, Chester, 1876; Silver Medal, South African Exhibition, Cape Town, 1877; Silver Medal, Northumberland Agricultural Society, Newcastle-on-Tyne, 1877; Silver Medal, Knutsford, 1878; Medal, North Berwick, 1878; Medal, Dairy Show, London, 1878; Silver Medal, Derby, 1878; Silver Medal, Wellinghorough, 1879; Medal, Bentham, 1880; Medal, Melbourne Exhibition, 1880; and Silver Medal, Stourbridge, 1881.

CAUTION.—*Beware of Imitations, and see that the name of* DAY, SON & HEWITT *is on all Bottles and Packets.*

Prepared only by DAY, SON & HEWITT, 22 DORSET STREET, BAKER STREET, LONDON, W

And sold by Messrs. Burgoyne, Burbidges & Co., Barclay & Sons, W. Edwards, Newbery & Sons, Sanger & Sons, and all Wholesale Druggists, in London; Hood & Co., Melbourne; Kempthorne, Prosser & Co., Dunedin and Auckland; Fairthorne & Co., Launceston.

HORSES.—LIEUT. JAMES'S BLISTER

(Manufactured by R. J. JAMES, the Grandson of the Inventor).

This celebrated Blister is now offered to the Trade at the following reduced prices:—

1 oz. pots from			14/- per doz. to			12/6 per doz.		½ lb. pots from		£4 4 0 per doz. to	£4
2 „	„	£1	5	6	„	£1	3	0 „	1 „	„	7 16 0 „	7
4 „	„	2	8	0	„	2	4	0 „				

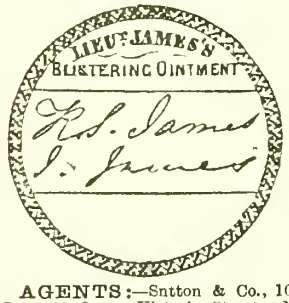
Observe the Trade Mark.—"*A Horse's Head on the top of each Pot, and the signature, R. J. James.*"

Wholesale Agents, BUTLER & CRISPE, 4 Cheapside; NEWBERY, 37 Newgate Street; MAW, SON & THOMPSON, 11 Aldersgate Street; HATES & Co., Dublin; GOULDING, Cork; FOGGITT, Thirsk; and SANG & BARKER, Edinburgh. Agents for the Colonies required. Apply, with reference, to R. J. JAMES, 15 Union Bank Buildings, Ely Place, London, E.C.

JAMES v. JAMES.—LORD ROMILLY, the Master of the Rolls, on February 23, 1872, declared "that I had an equal right with other members of the Inventor's family possessing the receipt to make and sell this Blister."—R. J. JAMES.

ESTABLISHED 1833.

HORSES.—LIEUT. JAMES'S BLISTER.



CAUTION.

The annexed Label is at the top of every Pot of the *ORIGINAL* and only *GENUINE BLISTER.*

The Messrs. Barclay & Sons, 95 Farringdon Street, London, and Messrs. Raimes & Co., Edinburgh, Liverpool, and York, are now and have been Agents 45 years.

AGENTS:—Sutton & Co., 10 Bow Churchyard; W. Edwards & Son, 157 Queen Victoria Street; Newbery & Son, 37 Newgate Street; Evans, Lescher & Evans, Bartholomew Close; Burgoyne, Burbidges & Co., 16 Coleman Street; Lynch & Co., 171A Aldersgate Street; W. Mather, Farringdon Road, London, and Manchester; Tidman & Son, Wilson Street; Sanger & Son, 150 Oxford Street; Millard & Sons, 40 Charterhouse Square; Corry & Soper, Shad Thames; A. A. Campbell, Leadenhall Street, London; Woolley, Sons & Co., 59 Market Street, Manchester; Apothecaries' Company, Virginia Street, Glasgow; Boileau & Co., Bride Street, Dublin; McMaster & Co., 121 & 122 Capel Street, Dublin; Hunt & Co., 17 Westland Row, Dublin; Clarke & McMullen, Victoria Street, Belfast; D. Galbraith, Londonderry. *And by all Chemists, in Pots, 1/6, 2/9, and 5/.*

COLONIAL AGENTS:—MELBOURNE and WELLINGTON: Felton, Grimwade & Co.; SYDNEY, BRISBANE, and LAUNCESTON: Elliott Bros. & Co.; DUNEDIN and AUCKLAND: Kempthorne, Prosser & Co.; CALCUTTA: Smith, Stanistreet & Co.

W. H. JAMES, Sole Manufacturer, **STANFORD, FARINGDON, BERKS**

Advertised in "Bell's Life" 45 years. Beware of Spurious Imitations.

CATTLE MEDICINE.

ESTABLISHED MORE THAN FIFTY YEARS.

CORNER'S PINE'S DEVONSHIRE OILS

For Outward and Inward Application, is the best and cheapest remedy for any ailment Stock is liable to, and no stable, farmyard, or shepherd should be without.

Lambing.—Invaluable to the Shepherd during Lambing, for Colds, Inflammations, Cleansing, Udder-ill, Scour, &c.

In Sheepshearing, for Cuts, Sores, or Sprains.

For the Fly and Maggot in Sheep.—Nothing can surpass its value in summer for healing the worst Sores caused by the Fly, at the same time invigorating the growth of Wool.

Cattle and Horses.—As an Embrocation or Drench for Bruises, Swellings, Sprains, SWOLLEN UDDERS OF COWS, the Scour in Calves, Internal and External Inflammations, Butts, &c., Wounds or Galls of any kind. *WINE SIZE, 2s.*

Sole Proprietor, RICHARD CORNER,

WELLINGTON, SOMERSET.

*** *Anyone vending an article purporting to be* PINE'S DEVONSHIRE OILS *without his Signature on the bottle, will be proceeded against.*

Supplied by all Wholesale Houses, of whom Bills, Posters, and Show Cards can be had.

SCOUR IN LAMBS CURABLE BY

THE DEVONSHIRE COMPOUND.

This Preparation has not been equalled for its immediate effects in checking this fatal disease in Lambs, AND IS QUITE A DIFFERENT PREPARATION to the Devonshire Oils. *In Bottles, 2s. each.*

TESTIMONIAL. Tedburrow, Hemyock, Oct. 21, 1880.

"Dear Sir,—The DEVONSHIRE COMPOUND you sent me I have used in one case of Scour in Lambs, with complete success in each case; I therefore think it a valuable medicine, having lost fifteen Lambs before I used the compound."—I remain, Sir, yours very truly. JOHN FARRAR.

Mr. R. Corner, Wellington.

"HUNTER'S" INFALLIBLE VERMIN DESTROYER.

"The best Extant."

The enormous sale last year of this old-established article, and the few specimens of testimonials below, stamp it as undoubtedly "the best extant." It is very neatly and very carefully put up throughout, and is indeed a most satisfactory article in

Thirty-five years' Reputation.

every respect, proof of which lies in the fact of its having — although not constantly advertised — steadily maintained its reputation as such, ever since its introduction to the trade and the public, now about thirty-five years ago.

1d., 2d., 3d., 6d., and 1s.

"CANNOT BE EXCELLED."

From Mr. Smith, Chemist, Glasgow:—"I have not kept any other Vermin Killer' than yours for the last four years. It is the best I ever sold."

From Mr. Geo. Eagle, Merrickville, Sydney, Australia, to Mr. Mitchell, Druggist, Pitt Street, Sydney:—"Sir,—I promised to let you know how Hunter's Vermin Destroyer' acted. Its effect was wonderful; in one night it destroyed all the rats and mice about my house, which was warmed with them."

From Mr. A. Billington, Chemist, Wakefield: August 28, 1878:—"Dear Sir,—Please send me a few of your Vermin Killer Registers. I can bear testimony to the deadly effect of your 'Killer,' having one night laid in my warehouse the contents of a 2d. packet, and found in the morning no fewer than forty dead mice."

VIDE TESTIMONIALS.

From Messrs. P. Smith & Co., Chemists, Runcorn, October, 1880.—"In our opinion your 'Destroyer' is the best extant."

From Mr. James Froud, Chemist, Dorchester:—"Your poison succeeds to admiration. It is as effective as an infernal machine."

From Mr. Jas. Thompson, Low Hesket, near Carlisle, to Mr. R. T. Pattinson, Chemist, Carlisle:—"Sir,—You can with confidence recommend 'Hunter's Vermin Destroyer.' It is the best thing I ever used, having often cleared stack-yards of both rats and mice in a day or two."

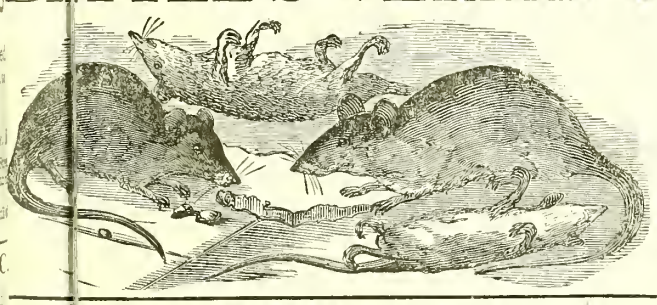
From Mr. Edward Thornton, Chemist, Lyme Regis:—"I can bear testimony to the efficacy of your 'Killer.' Parties who have purchased it of me say that it is the best they have tried. Mice are rapidly destroyed by it, and it quite answers the description you have given of it."

Not in Stock by all the Wholesale Houses in the Trade throughout the United Kingdom. Vide Trade Lists, &c.

LABORATORY—WESTGATE & UNION STREET, DEWSBURY, ENGLAND.

BATTLE'S VERMIN KILLER.

Mice eat it readily, and Die on the spot.



Has an immense Sale, and wherever introduced never fails to give satisfaction.—Mice appear attracted to it as by magic, eat it readily, tumble over, and die on the spot. Rats usually die in their runs.—Parties troubled with Vermin may be cleared at once, either from Stacks, Houses, or Ships.

TESTIMONIALS.—*Thousands might be published.*

From Mr. THOMAS COLTON, Agent for Selby.—A friend of mine purchased a Packet of your VERMIN KILLER last night, doubting its efficacy; to-day he called in to say that he had found fifteen dead mice, and had only used part of a packet.—From Mr. EDWARD STURDY, Flemington Mills.—I duly received by post the Packet of your VERMIN KILLER, and found it as represented in your advertisement. It speedily destroyed all the mice in my granary. I enclose 2s. for two more Packets.—Leeds, November 6th, 1857.—I have tried BATTLE'S VERMIN KILLER, and have found it most effectual in clearing my premises of LARGE QUANTITIES OF RATS.—THOMAS S. CROSLAND.—Mr. Stead.

Sold in Packets, 3d., 6d., and 1s. each.

SOLE PROPRIETOR:

Mr. J. R. BATTLE, Chemist, Lincoln, England.

No Chemist or Storekeeper should be without a supply.

CRAVEN'S VERMIN POISON,

For the effectual Destruction of RATS and MICE.

Guaranteed Second to None. Sale Increasing Daily.

USE CRAVEN'S VERMIN POISON,

For the efficacy of which numerous Testimonials have been received. Sample Packets Post Free. Prices, 2d., 3d., 4d., and 1s.—1s., 1s. 6d., 3s., and 6s. per dozen. Carriage Paid. Counter Bills.

F. CRAVEN, Chemist, Batley Carr.

EDWIN HELLIAR,

MANUFACTURING CHEMIST,

YEOVIL,

Begs to call the attention of the trade to the following specialities, which will be found worthy of a place in the stocks of all Chemists, and the favour of their order, either direct or through the leading London Houses, will much oblige.

Fly Tin and Lear Powder, for dressing Sheep and Lambs	in tins, 1/, 2/, 3/6
Foot Rot Paste	pots, 1/, 2/6
Condition Powders for Horses	tins, 2/6, 4/6
Canine or Dog Soap	6d.
Worm Powders for Dogs	6d.
Balsam Honey for Coughs	7½d., 1/1½, 2/9
Vermin Killer	3d., 6d., 1/

London Wholesale Agents:—HOVENDEN & SONS, BARCLAY & SONS, SANGER & SON, W. EDWARDS & SON. Exeter:—EVANS, GADD & CO.

USUAL TERMS.

100 Rats destroyed for a Shilling by

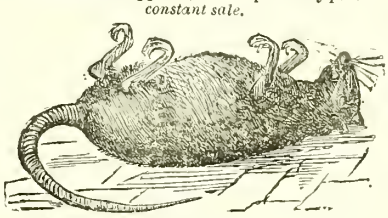
BARBER'S PHOSPHOR PASTE.

WRAPPED NEATLY FOR THE COUNTER.

Handsome attractive Posters supplied; if conspicuously placed will command constant sale.

Kills Rats, Beetles, &c.

THE DEAD VERMIN DRY UP WITHOUT SMELL.



Guaranteed the best destroying Paste in the world.

3d., 6d., 1s., 2s. 6d., and 5s. Tins. Also

BARBER'S VERMIN KILLER.

SOLD THROUGHOUT THE WORLD.

Kills Mice upon the spot. In packets, 3d., 6d., and 1s.

Be not deceived with worthless imitations. Observe the Name!!!

The VERMIN KILLER sent free by post at the following prices:

2d.	3d.	6d.	1s. 0d.	
1s. 0d.	1s. 6d.	3s. 0d.	6s. 0d.	.. Per Dozen.

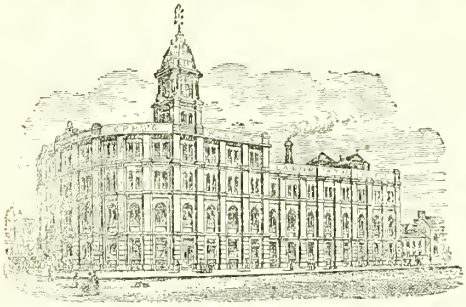
The PHOSPHOR PASTE, at same prices. Carriage paid per rail for enclosure to any Wholesale House, or direct, for quantity of either Paste or Killer.

☞ *Special arrangements are made for Sole Agency with Chemists.*

WORKS, SALISBURY: ESTABLISHED 1848.

Special Quotations to Shippers. Supplied by all the London Wholesale Houses.

HOMŒOPATHIC MEDICINES AND DIETETICS.



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JAMES EPPS & CO.,

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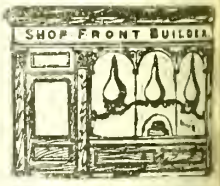
(THE FIRST ESTABLISHED IN ENGLAND,)

48 THREADNEEDLE ST., LONDON.

SHOP-FITTINGS.

ESTABLISHED 1830.



SAMUEL HOWLETT,

4 LINDLEY STREET (formerly called North St.), SYDNEY STREET, MILE END, LONDON, E.,

A few Minutes' Ride by Omnibus from the Bank.

MEDICAL AND GENERAL SHOP FITTER.

SHOPS FITTED BY S. H., and to whom references are kindly permitted:—

Messrs. Corbyn, Stacey & Co., 7 Poultry, London.
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,, John Broad, Hornsey Rise, London.
,, N. Nicholson, Canonbury, London.
&c. &c. &c.

Messrs. Leath & Ross, St. Paul's Churchyard, London.
,, Harvey & Reynolds, Leeds.
Mr. W. F. Smith, 280 Walworth Road, S.E.
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&c. &c. &c.

Cabinet Fitter to the Pharmaceutical Society of Great Britain. Manufacturer of every description of Air-tight Glass Show-cases for Chemists, Jewellers, &c. Medical Labelling, &c.

Plans and Estimates for Entire Fittings and Alterations supplied.

For Best Composition. Acid Proof,

MORTARS & PESTLES,

ALL SIZES.

COMPOSITION PILL TILES AND FUNNELS.

EARTHENWARE—COVERED POTS, } ALL SIZES.
,, GALLIPOTS,
,, UNIONS.
,, MEDICINE SPOONS.
,, INVALIDS' FEEDERS.
,, INFUSION JUGS.
,, SHOP JARS.
,, BED PANS.
,, URINALS, ETC., ETC.

Special attention to Export Orders. Apply for Price List and Special Quotations to

EDWARD S. INSULE,

HANLEY, STAFFORDSHIRE.

GREGORY'S TOOTHACHE WOOL.

A NOVELTY.

Gives instant ease and destroys the nerve without pain.

ONE DOZEN ON A CARD.
RETAILS at 6d.

TERMS—
39s. per Gross
One Gross and upwards Carriage Paid.

PROPRIETOR,
WALTER GREGORY, Chemist, BRISTOL.

LLOYD RAYNER'S £75 CHEMIST'S SHOP

FITTED COMPLETE WITH ALL NEW GOODS,

INCLUDING

GLASS SHOW CASES, SHOP BOTTLES, JARS, &c.

If for Export, suitable for any climate, including Packing Cases, and delivered to any of the London Docks, free, £85.

The above Fittings are suitable for a Shop 14 feet long by 12 feet wide.

WHOLESALE AND RETAIL DRUGGIST'S, SURGEON'S AND DENTIST'S VALUER.

An Extensive Stock of Chemist's, Surgeon's, Dentist's, Grocer's and other Trade Fixtures, Office Fittings, Utensils, &c.

ALL KINDS OF FIXTURES BOUGHT OR TAKEN IN EXCHANGE.

SHOW ROOMS AND OFFICES—

333 KINGSLAND ROAD.

FACTORIES—

2 DOWNHAM ROAD, KINGSLAND;

AND

WHITMORE ROAD, HOXTON, LONDON, N.

EORGE TREBLE & SON,

ggist' Shops Fitted and Furnished complete with
tures Bottles, Jars, Carboys, and
cie ars by contract.

s and Estimates
supplied.

RUGGISTS' SHOP FITTERS BY CONTRACT.

OFFICES AND SHOW ROOMS
72, 74, 76, 78, & 80 CRONDALL STREET.
Steam Works—
44,46,48,50 & 52 WHITMORE RD., & BRIDGE WHARF, REGENT'S CANAL.
Office for all Communications—
78 CRONDALL STREET, HOXTON, LONDON, N.
Agents—S MAW, SON & THOMPSON, 7 to 12 ALDERSGATE, CITY.

W. J. LEMAITRE & CO.,

OF 66 PENTONVILLE ROAD, N.,

edical Shop Fitters and Show Case Makers,

HAVING PURCHASED THE WELL KNOWN BUSINESS AND STOCK OF

FILMER KIDSTON,

Offers the whole of his well-made and seasoned Stock of

SHO FITTINGS, SHOW CASES, SHOW JARS, CARBOYS, &c.,

Including the KIDSTON'S HANDSOME

RIZE DISPENSING COUNTER,

At a Great Reduction for Cash, to make room for New Goods, at the Show Rooms,

KE STREET, BRUSHFIELD ST., BISHOPSGATE ST., LONDON.

R. TOMLINSON,

RUGGISTS' SHOP-FITTER, SHOW-CASE MAKER,

AND MANUFACTURER OF DRUGGISTS' SUNDRIES,

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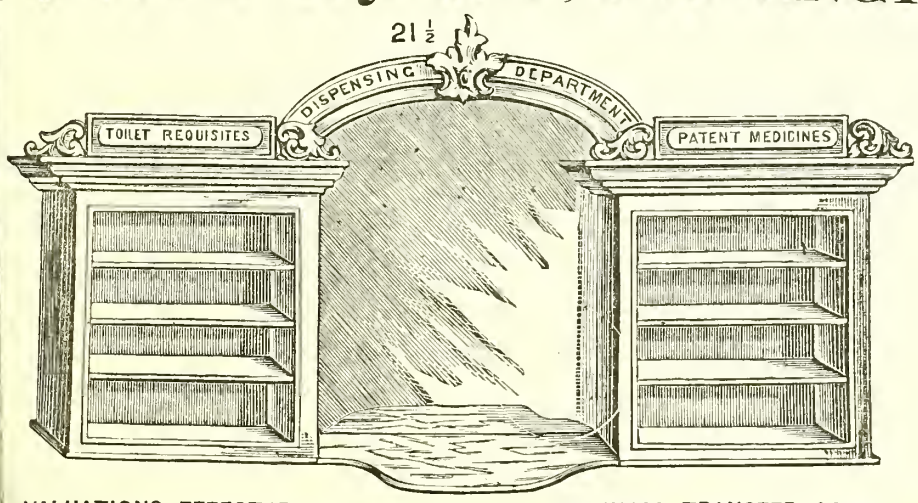

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SCOND-HAND FIXTURES OF ALL KINDS BOUGHT AND EXCHANGED.

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Sold by all dealers throughout the World.

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2/9 & 4/6
THE BEST NERVE TONIC.
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Index to Advertisements,

Pages 21, 22.

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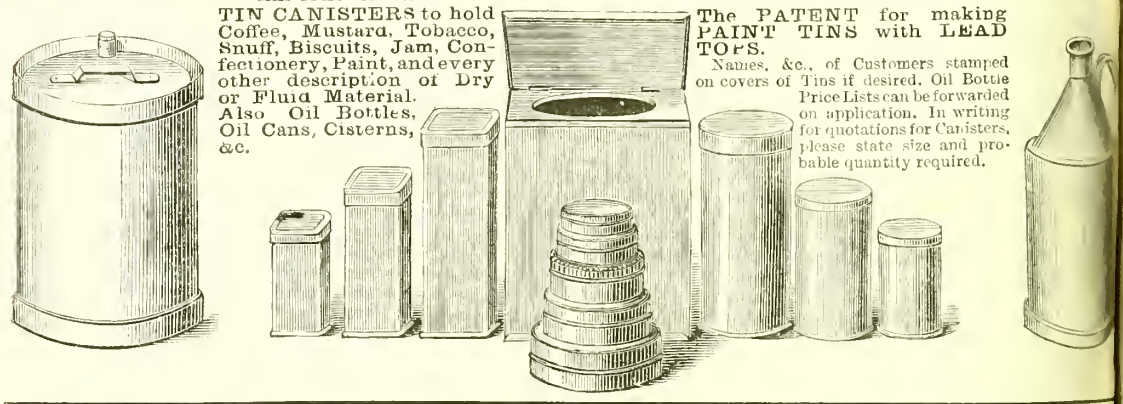
TIN CANISTERS to hold Coffee, Mustard, Tobacco, Snuff, Biscuits, Jam, Confectionery, Paint, and every other description of Dry or Fluid Material. Also Oil Bottles, Oil Cans, Cisterns, &c.

PROPRIETORS OF
The PATENT for making PAINT TINS with LEAD TOPS.
Names, &c., of Customers stamped on covers of Tins if desired. Oil Bottle Price Lists can be forwarded on application. In writing for quotations for Canisters, please state size and probable quantity required.



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In Crystallised, Decorated, or Plain Tin Plates, suitable for Blacking, Polishing Paste, Tooth Powder, Plate Powder, Pomade, Lozenges, &c., &c.

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Suitable for Blacking, Polishing Paste, Tooth Powder, Pomade, Pills, Lozenges, &c.

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For Disinfectant Powder, Baking Powder, &c., &c., &c.

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To £1 10s. per Gross.

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The e ensive demand, united with our unequalled facilities for the economical production of our Specialties, enables us to r the st quality of *elegant and unimpeachable goods at exceptionally low prices.* They are uniformly made of purified arubbe selected drugs, and are incorporated with an unquestionable quality of medicinal extracts. Every Pharmacopœia cle is rranted to be of proper strength, and guaranteed to give entire satisfaction.

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POROUS PLASTERS.

Packed 2 dozen in a box. Size 5 × 7½ inches.

nite	per gross	£3	0	0	Galbanum	per gross	£3	0	0	Pitch, Burgundy ...	per gross	£2	8	0
nite an Belladonna	,,	3	12	0	Galbanum Comp. ...	,,	3	0	0	Pitch and Cantharides	,,	3	0	0
ica	,,	2	8	0	Hemlock	,,	3	0	0	Poor Man's	,,	2	8	0
ladonna	,,	2	14	0	Iron	,,	2	8	0	Strengthening ...	,,	1	10	0
ason's C cine ...	,,	4	16	0	Opium	,,	3	12	0	Sumach—Rhus Toxicodendron		3	12	0
onia...	,,	3	12	0	Opium and Arnica	,,	3	12	0	Warming	,,	3	0	0
endula	,,	3	12	0	Opium and Belladonna	,,	3	12	0	Witch Hazel	,,	3	0	0
psicum	,,	2	0	0	Opium and Iodine	,,	3	12	0	Roborans	,,	2	8	0

Special Formulæ made to order. *Plain Spread and Porous at same rates.*

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rmacopœ and Medicinal Plasters, in Rubber Combin on, Porous or Plain Spread.

Size, inches wide by 1 yard long.

nite	per doz.	£1	7	6
nica	,,	1	7	6
ladonna	,,	1	7	6
ster, Cant ridal	,,	1	7	6
psicum	,,	1	7	6
rcurial	,,	1	16	0
um	,,	1	16	0
apsia, Fre h Formula ...	,,	1	8	0

full Line. Porous and Plain Spread at same rates. ecial Formulæ made to order.

Mead's Corn and Bunion Plasters, *Medicated*, per dozen, 8*s*.

Corn and Bunion Plasters, Round, Square, and Oval, all styles, thick and thin.

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Salicylated Indiarubber Adhesive Plaster, Porous or Plain Spread, on Strong Cotton Cloth or Twilled Linen.

Breast Plasters, Belladonna, Lead, or Phytolacca Decandra, 6 inches and 8 inches in circumference.

Mead's Adhesive Plaster, Pliable and Antiseptic, 1-yard rolls, per doz. £0 14 0

Mead's Adhesive Plaster, in 5-yard rolls .. .. per roll 0 5 0

Mead's Adhesive Strips, ½ inch, per doz. £0 14 0

Mead's Adhesive Strips, 1 inch, per doz. 0 16 0

Mead's Adhesive Strips, 2 inch, per doz. 1 4 0

Also in Special Widths to order.

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Mustard Plasters, in ½-yard rolls, per doz 0 6 0

Mustard Leaves, 10 in tin ,, 0 10 0

Mustard Envelopes, 6 in paper, per doz. 0 6 0

Mustard Envelopes, 3 in paper, per doz. 0 3 0

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